

Submission on Draft Parramatta Road Urban Transformation Strategy September 2015



The Heart Foundation is a not-for-profit organisation committed to improving cardiovascular health in Australia. The Heart Foundation's vision is for Australians to have the best cardiovascular health in the world. Through its research, health promotion programs and policy development, the Heart Foundation promotes healthy public policy to support better health for all Australians.

Cardiovascular disease (CVD) is the term used for a group of diseases including heart disease, stroke and blood vessel disease. It affects more than 3.3 million Australians and is one of Australia's leading causes of death – more than 47,000 Australians die each year because of cardiovascular disease. The biggest contributors to poor heart health are health behaviours, especially smoking, poor nutrition, insufficient physical activity and overweight/obesity. Addressing these lifestyle related factors can reduce CVD mortality risk by 66%¹.

Introduction:

The Heart Foundation NSW welcomes the opportunity to comment on the Draft Parramatta Road Urban Transformation Strategy and supports the general intent to transform Parramatta Road into a more liveable and vibrant corridor through urban renewal, creating walking and cycling friendly environments, improving access to public transport and local employment, and enhancing the public domain.

Evidence suggests that when combined with other, related built environment factors such as design, diversity, distance to public transport, destination accessibility, demand management (parking policies) and placemaking²; appropriately increased density is associated with an increase in physical activity among adults, particularly a higher uptake of transport related walking (see Appendix).

We agree that Parramatta Road in its current state is in urgent need of such improvements but raise concern to the fact that some of the plans and targets may adversely affect the community's health and wellbeing. The plan seems to be overly ambitious with the housing,

¹ Loef M, Walach H. The combined effects of healthy lifestyle behaviours on all cause mortality: A systematic review and meta-analysis. *Preventative Medicine* 2012; 55:163-170

² Udell T, Daley M, Johnson B, Tolley R. Does Density Matter? The role of density in creating walkable neighbourhoods. Melbourne: National Heart Foundation of Australia, 2014 Available at https://www.heartfoundation.org.au/images/uploads/publications/Heart_Foundation_Does_density_matter_FINA_L2014.pdf (Accessed 27 November 2015)

population and employment targets without adequate amenity (particularly in the Granville and Homebush precincts) and lacks precautionary measures in case reduced traffic volume predictions for Parramatta Road are not met.

Our key concerns outlined in this document are in line with our expertise in the relationship between health and urban planning. The submission has also been developed in consultation with the Western Sydney Local Health District and the City of Sydney. Further comment has been provided in the following areas:

- Governance;
- Green and open space provision;
- Social equity;
- Transport; and
- Physical health hazards

If you have any further queries, please contact Ms Julie Anne Mitchell, NSW Cardiovascular Health Director on (02) 9219 2450 or Ms Jen-Kui Maxwell, Senior Active Living Coordinator on (02) 9219 2458.

Background: Why the Heart Foundation is interested in the Draft Parramatta Road Urban Renewal Strategy.

The increase in car use in Australia over the last four decades has coincided with a significant decline in physical activity in the community. This decline in incidental physical activity, such as walking and cycling for transport, has had an impact on population-wide physical activity levels and is contributing to the current epidemic of chronic diseases, including CVD. In order to reverse this trend, we need to build cities that encourage people to be active every day, by incorporating physical activity into daily routines, such as for transport.

Just as we have all come to expect road access to our homes and workplaces, all communities have the right to a network of connected, direct and easy travel routes which encourage active transport such as walking and cycling. To be well used, these routes need to be safe, comfortable, attractive and well-maintained, and link homes with shops, schools, parks, public transport access, green spaces and other destinations to meet daily and recreational needs.

The Heart Foundation believes that increasing population levels of physical activity goes beyond education and promotion of individual behaviour change. Health behaviours are also strongly influenced by the environments in which people live. Physical and social environments which discourage walking, cycling or using public transport are associated with poor cardiovascular health indicators. Our policy document "*Blueprint for an Active*

*Australia*³ highlights built environments and active travel as two of the 13 action areas which require immediate attention to increase levels of physical activity in Australia.

These broader health and wellbeing considerations must be integral to the decision-making processes connected with renewal of the Parramatta Road corridor. The draft Strategy proposes substantially increasing the population density in precincts along Parramatta Road and we agree that appropriately increased density can contribute to the viability of local shops, services and transport in areas that are well connected to existing transport and employment. Nonetheless, increases in residential density needs to be appropriate for the capacity of the existing and planned public transport network, road network, social infrastructure (e.g. schools, childcare, health facilities) and public open space (including both passive and active green space). A balance between new jobs and housing is also critical to ensure that jobs are created closer to where people live, reducing time spent commuting to and from work which can be better spent on activities such as engaging in physical activity, socialising and spending time with loved ones and/or preparing meals at home.

It's important to recognise that increasing population density alone does not create more walkable or 'liveable' neighbourhoods. Other essential variables such as design, diversity, distance to public transport, destination accessibility, demand management (parking policies) and placemaking⁴; must also be present if the full health and 'liveability' benefits of urban consolidation are to be realised, so care must be taken to ensure increased density is accompanied by the factors outlined in this submission.

Finally, it is imperative that planning decisions are guided by robust input from the local community, health and social agencies, and that the relevant Councils are fully engaged with the decision making process.

³ National Heart Foundation of Australia. Blueprint for an active Australia: Government and community actions to increase population levels of physical activity and reduce sedentary behaviour in Australia , 2014-2017. 2nd edition. Melbourne: National Heart Foundation of Australia, 2014. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Blueprint-for-an-active-Australia-second-edition.pdf> (Accessed 27 November 2015)

⁴ Udell T, Daley M, Johnson B, Tolley R. Does Density Matter? The role of density in creating walkable neighbourhoods. Melbourne: National Heart Foundation of Australia,2014 Available at https://www.heartfoundation.org.au/images/uploads/publications/Heart_Foundation_Does_density_matter_FINA_L2014.pdf (Accessed 27 November 2015)

Comments and recommendations on the *Draft Parramatta Road Urban Transformation Strategy*

1. Governance:

The Heart Foundation believes state and local government collaboration is essential for effective renewal of the Parramatta Road corridor. Within our submission to the preliminary draft Strategy in February 2015, we advocated for the Strategy to include the promotion of health and wellbeing as a specific action. In the current iteration of the Strategy, there is still no such action, with little reference or integration of health and wellbeing outcomes.

Goal 3 in '*A Plan for Growing Sydney*⁵ centres on creating "A great place to live with communities that are strong, healthy and well connected" and specifies Direction 3.3: Create healthy built environments. In order to align with Goal 3 and Direction 3.3 in '*A Plan for Growing Sydney* and to ensure that the intent of this direction cascades down to more local strategies, we maintain the view that promoting health and wellbeing should be a specific action of the Parramatta Road Urban Transformation Strategy and that references to health and wellbeing outcomes should be explicit and embedded into Principle 4: Create Liveable local Precincts along the Corridor that are sustainable, resilient and make Sydney a better place.

In addition to this, we maintain the view that the *State and Local Partnering Group* should be broadened to include public health sector representation. There is an existing, skilled healthy built environment workforce within Local Health Districts that could provide this expertise, as well as the *Healthy Planning Expert Working Group* (supported by the NSW Premiers Council for Active Living) that can be consulted for input.

Ongoing community engagement throughout the planning process is also critical. The preliminary Strategy saw only a modest number of comments submitted, compared to the population of residents, employers and employees that will be impacted. The current Strategy continues to lack detail about both the stages at which the community will be engaged and the methods that will be used to obtain feedback from a broad sector of a culturally diverse community. We would like to see more explicit information about governance and the ongoing process for community engagement in the final Strategy.

Recommendations (Governance):

- Health and wellbeing needs to be explicitly included into Principle 3: Community and Places with reference to community health and wellbeing outcomes within the Strategy.
- Clarify role of the Greater Sydney Commission in the Governance Framework of the Strategy

⁵ NSW Government, Planning and Environment <http://www.planning.nsw.gov.au/Plans-for-Your-Area/Sydney/A-Plan-for-Growing-Sydney> (Accessed 27 November 2015)

- Public Health sector representation needs to be included in the State and Local Partnering Group.
- The Community Engagement Schedule needs to provide explicit information about the ongoing community consultation and engagement process.

2. Green and open space provision

We support the consideration of open space access and provision with the urban renewal of the Parramatta Road corridor. People with access to high quality open space and green space are more likely to walk and undertake physical activity than those who don't⁶. We have concern that the proposed green and open space provision across the corridor is inadequate in relation to the projected population, despite the Draft Strategy (p11) stating that the urban transformation for the Parramatta Road Corridor aims to “*deliver community facilities and open space to meet growth.*”

While we acknowledge the suggested principles and standards for open space provisions in the *Parramatta Road Open Space and Infrastructure Schedule*, the planned open space across the Parramatta Road corridor is insufficient with the proposed population growth, generally equating to less than 0.5m² per person across the eight precinct areas. In addition to this, there has been no additional provision of active open space within the Draft Strategy.

While the *Parramatta Road Open Space and Social Infrastructure Report* outlines recommendations for delivering open space (pages 32-35), it fails to provide both concrete solutions to meeting future open space demand, as well as precautionary measures should suggested strategies or solutions fail to work.

Recommendations (Green and open space provision):

- Work with Local Councils for new Open Space provisions using the Department of Planning *Recreation and Open Space Guidelines for Local Government*⁷ to foster genuine community engagement with communities along the corridor to understand demand and needs of open space as per Guideline 3.3 of the *Recreation and Open Space Guidelines for Local Government*
- Specify inclusion of new Active Open Space in new concept plans – particularly in high population growth precincts.

⁶ Giles-Corti B, Ryan K, Foster S. Evidence review. Increasing density in Australia: maximising the health benefits and minimising harm. Melbourne: National Heart Foundation of Australia, 2012. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Increasing-density-in-Australia-Evidence-Review-2012-trevor.pdf> (Accessed 27 November 2015)

⁷ Department of Planning, 2010, Recreation and Open Space Planning Guidelines for Local Government

- Specify alternative parameters to meeting open space demand, should recommendations and assumptions made about Local Government actions that are detailed in *Parramatta Road Open Space and Social Infrastructure Report* fail to transpire.

3. Social equity:

The Heart Foundation agrees that a greater mix of housing is needed to support expected population increases and changing demographics within the precincts of the draft Parramatta Road Urban Transformation Strategy. The Government's "Plan for Growing Sydney"⁸ outlines the need to provide housing choice but also specifies the action "*Delivering more opportunities for affordable housing.*"

The current iteration of the Draft Parramatta Road Urban Transformation Strategy does not specify affordable housing targets, nor identify a clear mechanism for the delivery and management of affordable housing, which is an oversight given that Sydney is one of the most unaffordable markets in the world. Urban Growth, as the NSW Government development agency, should be leading by example and develop (with DPE) a comprehensive Corridor-wide Affordable Housing Strategy and a clear target for affordable housing delivery. Lower cost market options identified such as 'compact housing' are not an adequate option alone to cater for demographic diversity, especially families, and are still targeted at moderate incomes. Essential workers on lower incomes (e.g. nurses, teachers, emergency services etc.) should have the opportunity to live in the transformed precincts.

An example was noted in the City of Sydney's submission to the preliminary draft Strategy where they note: "*affordable housing levies were implemented early in the Green Square and Ultimo Pyrmont urban renewal areas allowing developers to plan for the costs when purchasing development sites. These schemes have been successful in providing about 600 affordable housing units in the City. The City secured land for around 50 affordable housing units in the rezoning of the Harold Park Urban Renewal site. A similar benefit sharing process could be applied to sites along the corridor benefiting from changes to the planning controls.*"

As addressed in a literature review the Heart Foundation commissioned in 2012 titled: *Increasing density in Australia: maximising the health benefits and minimising harm*⁹, poorly planned residential housing density which results, for example, in high priced housing or units which are unsuitable for elderly people, may displace existing ethno-specific, lower socioeconomic and other special population groups to other more affordable, but less accessible areas of Sydney. With urban renewal being a

⁸ NSW Government, Planning and Environment <http://www.planning.nsw.gov.au/Plans-for-Your-Area/Sydney/A-Plan-for-Growing-Sydney> (Accessed 27 November 2015)

⁹ Giles-Corti B, Ryan K, Foster S. Evidence review. Increasing density in Australia: maximising the health benefits and minimising harm. Melbourne: National Heart Foundation of Australia, 2012. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Increasing-density-in-Australia-Evidence-Review-2012-trevor.pdf> (Accessed 27 November 2015)

prime opportunity to deliver both diverse and affordable housing opportunities, we would like to see a specific minimum affordable housing target in the Strategy, the inclusion of an Affordable Rental Housing Strategy, as well as greater detail about how the planned housing diversity and mixed density will accommodate for existing lower socioeconomic groups within precinct areas.

Recommendations (Social Equity):

- Align the Strategy with “A Plan for Growing Sydney” (Action 2.3.3) by specifying affordable housing targets and developing a comprehensive affordable housing strategy and affordable rental housing strategy for the Corridor, within the proposed Housing Diversity Policy (p.106).

4. Transport:

The Heart Foundation recognises that Parramatta Road is under-functioning in its current state due to vehicle congestion, inefficient public transport operations, the hostile environment for walking and riding, and noise, lack of street trees and heavy visual clutter. While there is potential for the WestConnex Motorway to deliver more road capacity and ease congestion on Parramatta Road (at least in the short term), there should be precautionary measures in place, such as mandated housing set-backs, in case reduced traffic volume predictions for Parramatta Road are not met or are short lived.

Notwithstanding the prospect of unanticipated traffic volume along Parramatta Road, we have genuine concern that the existing public transport infrastructure will not provide the increased service frequency needed to ensure that public transport is a viable alternative to private vehicle use, based on the increased population projections.

Much of the proposed improvements in Draft Strategy suggest the use of Bus Priority Zones as a means with managing the additional population projection. The Draft Strategy needs to provide more detail on the capacity for Parramatta Road to cope with additional bus movements. With the likely need for heavy rail to accommodate projected housing and employment populations, in our view four out of the eight precincts (Auburn, Kings Bay, Leichhardt and Camperdown) do not have adequate access to the rail network, within what is usually considered ‘walkable distance’ (i.e. at least a 10 minute walk or 800m).

With this in mind, we suggest Parramatta Road is reconfigured to maximise road space freed up by anticipated traffic volumes diverted on the WestConnex Road Tunnel. We welcome the aspiration for greater use of active transport modes, such as walking and cycling. However, the Draft Strategy and the *Parramatta Road Precinct Transport Report* fails to provide adequate cycling routes from Burwood to Sydney CBD, with a Bus Priority Lane being designated the primary corridor for cycling along Parramatta Road between these two destinations. This is not best

practice for on-road cycling infrastructure and, based on our research^{10,11}, is unlikely to encourage a mode shift to transport riding amongst recreational riders, especially women.

A recent national survey¹¹ found that 70 per cent of Australians that have access to a bicycle were not considering cycling for transport in the near future, even though more than half would like to. The biggest barriers were identified as unsafe road conditions, speed/volume of traffic, safety and lack of bicycle lanes/trails. With local trips less than five kilometres making up 85 per cent of all trips that start and finish in the Corridor (59 per cent under two kilometres), due consideration should also be given to ensuring safe cycling routes along the corridor and not just within the surrounding streets within separate precincts.

We also encourage Complete Street design¹², as well as supporting infrastructure and complementary behaviour change initiatives to be outlined in the final Strategy to ensure all modes of transport are prioritised and a shift towards active transport modes is encouraged. With this, consideration of the way the precincts are planned, designed and structured is important to improve pedestrian safety and improve the environment for walking. We recommend that Urban Growth specifically incorporates Crime Prevention Through Environmental Design (CPTED) principles into the *Parramatta Road Urban Design Guidelines* to ensure that the Strategy creates places that feel safe, and encourage walking, for both transport and recreation.

Recommendations (Transport):

- Reconfigure Parramatta Road to prioritise walking, cycling and a dedicated public transport corridor in line with predicted reduced traffic volumes resulting from private vehicle diversion onto the WestConnex road tunnel.
- Increase the segregation of cyclists from motor vehicles, on separate bicycle paths or on protected bicycle lanes, except in very low speed environments- special consideration should be given to those precinct closest to the CBD where proposed transport improvements do not provide safe cycle routes.
- Integrate Complete Street design and policy into future planning documents to ensure all modes of transport are prioritised in the urban design.

¹⁰ National Heart Foundation and Cycling Promotion Fund, 2013, *Women and Cycling Survey 2013*. Available at <http://www.cycle-helmets.com/women-cycling-survey-2013.pdf> (Accessed 1 December 2015)

¹¹ National Heart Foundation and Cycling Promotion Fund, 2012, *Riding a Bike for Transport: 2011 Survey Findings*. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Cycling-Survey-2011-Riding-a-Bike-for-Transport.pdf> (Accessed 27 November 2015)

¹² South Australian Active Living Coalition, *Streets for People*, 2012. Available at <https://www.healthybydesignsa.com.au/resources/> (Accessed 27 November 2015)

- Specify supporting infrastructure (e.g. wayfinding signage, park and ride facilities at public transport hubs, shared path priority crossings) as well as complementary Behaviour Change Initiatives (e.g. initiatives that promote new routes and infrastructure, map development, localised social marketing and promotion) that encourage a shift to active modes within the Final Strategy and implementation plans.
- Specify the inclusions of the Western Sydney Upgrade Program, in particular the anticipated service frequency and service capacity per hour.
- Specify the use of Crime Prevention Through Environmental Design (CPTED) principles into the *Parramatta Road Urban Design Guidelines*.

5. Physical Health Hazards

While we support the Draft Strategy to focus medium and high density housing in centres with good public transport, we strongly suggest caution is needed in selecting the location of higher density housing, in order to promote and protect the health and amenity of future residents.

An evidence review commissioned by the Heart Foundation¹³ found that locating higher density housing on heavily trafficked roads without adequate set-backs has been associated with higher rates of respiratory illnesses, while CVD was consistently associated with exposure to environmental stressors such as air pollution.

Within the current iteration of the Strategy, there is little information on the likely effect (and furthermore, precautionary measures) on air and noise pollution, as well as heat stress impact, as a result of significant increases in higher density housing.

A report produced by Western Sydney Local Health District for Parramatta City Council titled 'Heat Stress'¹⁴ indicates that areas of Western Sydney experience a significantly greater number of days over 35 degrees than the Sydney CBD, which in the case of the Parramatta Council area, is further exacerbated by the 'Urban Heat Island' effect¹⁵. Employment precincts, highly developed areas and areas with less tree cover were significantly hotter than those areas with more tree cover.

Future renewal plans for the Parramatta Road corridor need to better detail how each of these factors will be addressed, alongside density increases – particularly in the

¹³ Giles-Corti B, Ryan K, Foster S. Evidence review. Increasing density in Australia: maximising the health benefits and minimising harm. Melbourne: National Heart Foundation of Australia, 2012. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Increasing-density-in-Australia-Evidence-Review-2012-trevor.pdf> (Accessed 27 November 2015)

¹⁴ Centre for Population Health, *Heat Stress*, WSLHD, Sydney March 2015

¹⁵ Parramatta City Council. Parramatta Heat Maps, Cool Parramatta website, Available at: <http://coolparramatta.com.au/> (Accessed 7/12/2015)

event that reduced traffic volume predictions for Parramatta Road are not met, and/or heavy vehicles do not use alternative routes at the level predicted.

Recommendations (Physical Health Hazards):

- Commission modelling of air and noise pollution in the current and proposed urban canyon along Parramatta Road.
- Include modelling of air and noise pollution in the requirements for the Department of Planning and Environments' Director General.
- Ensure best practice design guidelines to reduce the impact of air pollutants, are incorporated in planning legislation. These would include requirements relating to building 'roughness'; variation in street scape and significant vegetation.
- Ensure best practice design guidelines to reduce the impact of heat, are incorporated in planning legislation. These would include requirements relating to external finishes and materials, landscaping, public domain works and the provision of open / green space.
- Provisions for open space and the greening of the precinct need to be significantly higher to mitigate the 'Urban Heat Island' effect.

Summary of Recommendations

In the table below, we provide a summary our recommendations across the five areas of comment:

Governance	<ul style="list-style-type: none"> • Health and wellbeing needs to be explicitly included into Principle 3: Community and Places with reference to community health and wellbeing outcomes within the Strategy. • Clarify role of the Greater Sydney Commission in the Governance Framework of the Strategy. • Public Health sector representation needs to be included in the State and Local Partnering Group. • The Community Engagement Schedule needs to provide explicit information about the ongoing community consultation and engagement process.
Green and open space provision	<ul style="list-style-type: none"> • Work with Local Councils for new Open Space provisions using the Department of Planning <i>Recreation and Open Space Guidelines for Local Government</i>¹⁶ to foster genuine community engagement with communities along the corridor to understand demand and needs of open space as per Guideline 3.3 of the <i>Recreation and Open Space Guidelines for Local Government</i>. • Specify inclusion of new Active Open Space in new concept plans- particularly in high population growth precincts. • Specify alternative parameters to meeting open space demand, should recommendations and assumptions made about Local Government actions that are detailed in <i>Parramatta Road Open Space and Social Infrastructure Report</i> fail to transpire.
Social Equity	<ul style="list-style-type: none"> • Align the Strategy with “A Plan for Growing Sydney” (Action 2.3.3) by specifying affordable housing targets and developing a comprehensive affordable housing strategy and affordable rental housing strategy for the Corridor, within the proposed Housing Diversity Policy (p.106).
Transport	<ul style="list-style-type: none"> • Reconfigure Parramatta Rd to prioritise walking, cycling and a dedicated public transport corridor in line with predicted reduced traffic volumes resulting from private vehicle diversion onto the WestConnex road tunnel. • Increase the segregation of cyclists from motor vehicles, on separate bicycle paths or on protected bicycle lanes, except in very low speed

¹⁶ Department of Planning, 2010, Recreation and Open Space Planning Guidelines for Local Government

<p>Transport (cont.)</p>	<p>environments- special consideration should be given to those precinct closest to the CBD where proposed transport improvements do not provide safe cycle routes.</p> <ul style="list-style-type: none"> • Integrate Complete Street design and policy into future planning documents to ensure all modes of transport are prioritised in the urban design. • Specify supporting infrastructure (e.g. wayfinding signage, park and ride facilities at public transport hubs, shared path priority crossings) as well as complementary Behaviour Change Initiatives (e.g. initiatives that promote new routes and infrastructure, map development, localised social marketing and promotion) that encourage a shift to active modes within the Final Strategy and implementation plans. • Specify the inclusions of the Western Sydney Upgrade Program, in particular the anticipated service frequency and service capacity per hour. • Specify the use of Crime Prevention Through Environmental Design (CPTED) principles into the <i>Parramatta Road Urban Design Guidelines</i>.
<p>Physical Health Hazards</p>	<ul style="list-style-type: none"> • Commission modelling of air and noise pollution in the current and proposed urban canyon along Parramatta Road. • Include modelling of air and noise pollution in the Department of Planning and Environments, Director General requirements. • Ensure best practice design guidelines to reduce the impact of air pollutants, are incorporated in planning legislation. These would include requirements relating to building ‘roughness’; variation in street scape and significant vegetation. • Ensure best practice design guidelines to reduce the impact of heat, are incorporated in planning legislation. These would include requirements relating to external finishes and materials, landscaping, public domain works and the provision of open / green space. • Provisions for open space and the greening of the precinct need to be significantly higher to mitigate the ‘Urban Heat Island’ effect.

Appendix

The role of the built and natural environments in influencing healthy behaviours is widely acknowledged in the literature from a range of disciplines, including public health, health promotion, urban studies, planning and transport planning¹⁷. For example, evidence summarised in the Heart Foundation's *Position Statement on the Built Environment and Walking*¹⁸ indicates that walking is associated with:

- Proximity of destinations, such as shops and public transport;
- Mixed use planning;
- Higher population density;
- Street connectivity and design;
- Pedestrian Infrastructure (linking key destinations); and
- Neighbourhood aesthetics, including access to public open space.

In addition to this, three separate evidence reviews commissioned by the Heart Foundation^{19,20,21} and a review from the NSW Healthy Built Environments Program²² examine the relationship between density, physical activity and broader health outcomes.

The conclusion from these reviews (and other evidence) is that built environments directly influence health and wellbeing. Car-dominated transport; reduced opportunities for exercise

¹⁷ Healthy Spaces and Places, 2009. Available at www.healthyplaces.org.au (Accessed 27 November 2015)

¹⁸ National Heart Foundation of Australia, 2009. *The built environment and walking*, Position Statement prepared on behalf of the National Physical Activity Program Committee (Chief authors: Gebel, K., Bauman, A., Owen, N., Foster, S., Giles-Corti, B.) Available at <http://heartfoundation.org.au/images/uploads/publications/Built-environment-position-statement.pdf> (Accessed 27 November 2015)

¹⁹ Giles-Corti B, Ryan K, Foster S. Evidence review. Increasing density in Australia: maximising the health benefits and minimising harm. Melbourne: National Heart Foundation of Australia, 2012. Available at <https://www.heartfoundation.org.au/images/uploads/publications/Increasing-density-in-Australia-Evidence-Review-2012-trevor.pdf> (Accessed 27 November 2015)

²⁰ Udell T, Daley M, Johnson B, Tolley R. Does Density Matter? The role of density in creating walkable neighbourhoods. Melbourne: National Heart Foundation of Australia, 2014 Available at https://www.heartfoundation.org.au/images/uploads/publications/Heart_Foundation_Does_density_matter_FINA_L2014.pdf (Accessed 27 November 2015)

²¹ Giles-Corti B, Hooper P, Foster S, Javad Koohsari M, Francis J. Low density development: Impacts on physical activity and associated health outcomes Melbourne: National Heart Foundation of Australia, 2014 Available at https://www.heartfoundation.org.au/images/uploads/publications/Heart_Foundation_Does_density_matter_FINA_L2014.pdf (Accessed 27 November 2015)

²² Kent J, Thompson S and Jalaludin B. Healthy Built Environments: A review of the literature. Sydney: Healthy Built Environments Program, City Futures Research Centre UNSW, 2011 Available at https://www.be.unsw.edu.au/sites/default/files/upload/pdf/cf/hbep/publications/attachments/HBEPLiteratureReview_FullDocument.pdf (Accessed 27 November 2015)

and incidental physical activity, lack of local fresh food production, increased fast-food availability and lack of social connection are all factors that can be reversed to the benefit of population health by better planning of our cities and towns.

The Heart Foundation in partnership with urban planners, local government and other stakeholders, has developed a range of evidence based resources to facilitate healthier urban planning and design. These are available at:

<https://www.heartfoundation.org.au/for-professionals/built-environment>

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