



Built & natural environment

City of Port Phillip Health Profiles

The environments in which we live, work and recreate play a significant role in shaping our health. Land use planning and urban design can support socially cohesive and inclusive communities and healthy lifestyles. For example, development of good quality buildings, social housing, pedestrian--friendly neighbourhoods, accessible public open spaces, high quality protected bike networks, reliable and conveniently located public transport, and healthy food environments can improve health. Building health into the design of environments is a key role of local government.

What do we mean by the built and natural environments?

The built environment refers to the human-made surroundings that provide the setting for people to live, work and recreate. It encompasses physical buildings and parks, and their supporting infrastructure such as transport, water, and energy networks (Coleman, 2017).

The natural environment is made up of the atmosphere, land, water, oceans and the diversity of living things (United Nations, 2019).

All environmental systems are interrelated. Extension of the built environment to meet the needs of the population growth puts pressure on the natural environment by using more land, water, and energy resources, as well as producing waste and emissions through consumption activities (Australian Institute of Health and Welfare, 2020).

How does the built environment affect health?

Urban density leads to a loss of green public open space, particularly tree canopy coverage, and can cause increased temperatures in urban areas. Urban density also plays a role in the spread and transmission of communicable diseases, such as COVID-19, as it can be more difficult to maintain physical distance from one another where a lot of people are sharing the same spaces.

Physical activity is an important factor in maintaining good health as it reduces the risk of physical illness and chronic disease and improves mental health. The built environment can be designed to encourage physical activity through 1) promoting walking, bike riding and using public transport, 2) connecting streets to make trips direct and convenient and developing mixed use areas that allow 20 minute access to daily needs without a car and 3) having a range of public open spaces which provide opportunities for formal and informal sport and recreation.



Access to health foods in the local area, through improved routes and neighbourhood shops is vital for supporting healthy eating. Adequate fruit and vegetable consumption is associated with reduced incidence of heart disease, some cancers, Type 2 diabetes, obesity, osteoporosis, dental caries, gall bladder disease, and diverticular disease (Levy, 2012). Land use zoning and regulation can be used to influence food retail environments, accessible supermarkets and other fresh food outlets and food production systems by supporting farmers markets and community gardens.

Social interaction and community connectivity are strongly linked to good health. The built environment can facilitate and foster broader, more creative interaction and a resilient community through enabling day to day interactions with people and nature in safe and accessible environments. Public open spaces, cafes, libraries and bookstores, are examples of places where people can relax in public. These kinds of environments strengthen social connections, inclusion and civic engagement.

Housing is an important influence on health. The availability of affordable and adequate housing enables people to more easily participate in the social, economic and community aspects of their lives while inadequate housing has significant impacts on the mental and physical health of residents. Planning and Building design codes regulate the insulation, ventilation, room sizes, ceiling heights and access to sunlight of dwellings. However, regulations managing the built environment are slow to respond to climate change, including increases in extreme heat events. Consequently heat-related deaths are expected to increase over time (Coleman, 2017). The built form needs to be future-ready to meet ongoing challenges such as housing diversity, affordability, responding to climate change. This also applies to the office buildings in Port Phillip.

An effective transport system is an essential part of a healthy built environment. It provides access to the resources and facilities people need for a healthy life, such as employment, health care, recreation and work. Increasing population density increases the number of cars on our limited road space and risk of injury from accidents, while decreasing physical activity (Chandrabose, et al., 2019). Car users also increase the level of greenhouse gas emissions, reducing air quality in built-up areas. Roads compromise the availability of green public open spaces, which reduces the opportunity for recreation, exercise and community gathering, and affects biodiversity. Transport systems can positively influence health by promoting active travel, or negatively influencing health through car dependence, traffic crashes and sedentary behaviour. Attractive efficient active transport networks can reduce greenhouse gas emissions and climate change, air pollution, noise, and lead to more natural space (Kent & Thompson, 2019).

Perceptions of safety are affected by the built environment. If residents feel unsafe while on the street or in public spaces, their participation in activities which connect them to others, are likely to be curbed. Actions that can be taken to improve perceptions of safety include installing appropriate street lighting, creating places that attract people to provide passive surveillance, graffiti management and reducing vacant premises located across municipalities.

Green and public spaces are important for both physical and mental health (Australian Institute of Health and Welfare, 2020). Spending two hours or more in natural environments over a week is associated with higher levels of self-reported good health compared with those who spend no time in them (White et al. 2019). Research also indicates that people are three times more likely to



undertake physical activity if they live within 400 meters of a park (Mavoa et al. 2016) while access to a larger park within 1.6 kilometers of home increases the likelihood of walking for 150 minutes or more in a week (Sugiyama, et al., 2008). Well-planned green spaces also support biodiversity, improve air quality, and reduce noise pollution and heat in urban areas (Kent & Thompson, 2019). Contact with the natural environment may also benefit our immune system (World Health Organization & Secretariat of the Convention of Biological Diversity, 2015).

How does the natural environment affect health?

Air quality is impacted by pollutants emitted from natural or human sources such as factories and cars, which are associated with increasing urbanisation and development. It can also be negatively impacted by bushfires. Long-term exposure to air pollution increases the risk of morbidity and mortality from cardiovascular and respiratory diseases, and particularly asthma (Australian Institute of Health and Welfare, 2020).

Ultraviolet radiation from the sun is essential for good health, as it helps the body to manufacture vitamin D. However, excess exposure puts individuals at risk of a number of cancers, cataracts and sunburn (World Health Organization, 2019). The provision of adequate shade in public spaces such as parks and the foreshore, as well as reminders to the public of the importance of sun safety are an important part of protecting our community from the effects of dangerous sun exposure.

Extreme weather events such as storms, floods, heatwaves, bushfires, and persistent droughts pose a significant risk to property and human life. It is expected that extreme heat events will occur more often and with greater intensity in the future due to **climate change** (Bureau of Meteorology, 2018). The 2019/20 bushfires were unprecedented, with 21 per cent of Australia's temperate forests burning, compared with the two per cent typical of previous major fire years (Boer, et al., 2020). 2019 was Australia's hottest year on record, reaching 1.52 Celsius above the long-term average; it was also Australia's driest year on record with 40% less rain than the long-term average. Sea level rise and changed rainfall patterns will also contribute to increased flooding and poorer water quality in the bay.

How is the built and natural environment contributing to the health of the Port Phillip community?

- Port Phillip is one of Victoria's most densely populated municipalities and our resident, worker and visitor population will continue to grow. Urbanisation and densification brings benefits of proximity to services, destinations and attractions, but also raises challenges of rising land prices and greater demand on public assets, as well as the potential negative health impacts of noise and overcrowding.
- Port Phillip has about 353 hectares of open space distributed over 169 open spaces (17 per cent of our city), as well as some noteworthy public spaces that adjoin our municipality including Fawkner Park, Kings Domain/Melbourne Royal Botanic Gardens, Rippon Lea Gardens and Elsternwick Park Nature Reserve.



Built Natural Environment - City of Port Phillip Health Profiles

- The foreshore and Albert Park Reserve are our largest open spaces, contributing significantly to the public space network which attracts people from across greater Melbourne.
- Compared to neighbouring municipalities, the City of Port Phillip has the second highest amount of public space as a proportion of its total area (17 per cent) and the second highest population proportion living within 400m of public open space (Victorian Planning Authority). The amount of public space, and effective access to this space, however, varies significantly across neighbourhoods
- Road space makes up approximately 17 per cent of Council controlled land in the municipality and approximately 20 per cent of this road space is used solely for car parking. There are opportunities for the city to adapt some of this space to use for walking, bike riding and passive recreation.
- There are many tree lined streets that are well loved for their contribution to character, comfort and walkability however some are not accessible to people of all abilities due to missing tactiles or curb ramps. And some streets offer little shade or places or incentive to rest.
- Much of the land in Port Phillip is contaminated from former industrial uses which presents an ongoing risk that must be managed to ameliorate potential health impacts.
- Many new dwellings being built in the City of Port Phillip do not cater for larger or family households and are not always accessible for people with restricted mobility and an ageing population.

How does the built and natural environment impact different groups in our community?

- Many people who are economically or socially disadvantaged rely on walking as primary mode of transportation and exercise. Well-lit, comfortable footpaths and walkable neighbourhoods help to address inequities for this group.
- In Melbourne, 61 per cent of the most advantaged 20 per cent of the population have access to public transport compared to 41 per cent and 34 per cent of the lowest and second lowest income quintiles, reflecting significant inequity in access to public transport.
- Within Port Phillip, relatively advantaged neighbourhoods, such as Albert Park and Middle Park, have lower population density and greater availability of public spaces.
- People on lower incomes are at heightened risk of preventable diseases and have fewer alternatives to using public transportation and green public spaces for exercises, so even small changes in the availability of public spaces, public transport and services can have significant impacts on health outcomes.



How has COVID-19 affected the built and natural environment?

During 2020, the COVID-19 pandemic created new and different demands in the built and natural environment. There was an increase in:

- People spending more time nearer to home
- More people working from their homes
- More active transport like walking and bike riding in preference to use of public transport
- Introduction of "parklets" to support local businesses to operate safely. Parklets utilise parking spaces to create additional public space or outdoor dining
- 'On street dining' in order to meet COVID-19 safe distancing requirements.
- The use of public spaces for private gardening infrastructure and activities, including edible gardens.
- Community interacting with the natural environment as they spend more time at home and in their local area.

Urban density also played a role in the spread and transmission of COVID-19, with more people sharing spaces making it harder to maintain physical distance from one another.

What is the City of Port Phillip's role in creating healthy environments?

Much of the public open space in Port Phillip is managed by the Victorian Government, in particular the Albert Park Reserve. Council is also required to adopt state legislation, policies and procedures as they relate to management of the environment. In particular, the City of Port Phillip is mandated to:

- Oversee all public space within the municipality (excluding Albert Park) including, parks, gardens, reserves, foreshore, streetscapes, playgrounds and urban spaces.
- Administer, enforce and continually review the Port Phillip Planning Scheme including its Local Planning Policies
- Make decisions on planning permit and subdivision applications
- Issue permits and enforce building regulations
- Administer and enforce permits for construction activity and commercial or private use of public spaces
- Register and inspect domestic swimming pools and spas
- Manage parking controls and road design

Over the next three years Port Phillip can address the drivers of poor health outcomes resulting from the built and natural environment by:



- Delivering greening outcomes which increase canopy cover, biodiversity and vegetation across the municipality
- Refining parking controls to encourage fair and equitable use
- Delivering infrastructure and programs that encourage active transport
- Designing and engaging on integrated spatial policies and projects
- Further developing place-based strategies and land use policies
- Updating Local Planning Policy to increase greening and canopy cover, reduce heat and improve the indoor environment quality of new buildings
- Contributing to advocacy for Victorian Planning Policy and regulatory reform
- Delivering public realm projects and precinct management
- Providing urban design and heritage advice
- Advocating for investment and design improvements on state controlled public realm and transport projects
- Enhancing our streetscapes and public spaces through commissioning public art
- Creating policy and programs to facilitate appropriate use of public space for edible gardens and enhancing food security

Who are our partners?

As many of the factors influencing the built and natural environment are outside of Council's control, partnerships with individuals and organisations in other sectors are crucial. Some of our key partners include:

- Fishermans Bend Taskforce and neighbouring municipalities,
- Department of Environment, Land, Water and Planning
- Melbourne Water
- EcoCentre
- Department of Transport
- Developers
- Community members
- Friends of parks or gardens groups

What may change over the next five years?

- Port Phillip will continue to experience population growth and associated pressure on transport networks and parking



- Use of public spaces will continue to become more contested as more people live in apartments, and parks replace backyards and urban spaces become the 'living rooms' where people meet and interact.

References

Astell-Burt, T. et al., 2014. Do low-income neighbourhoods have the least green space? A cross-sectional study of Australia's most populous cities. *BMC Public Health*, 14(292).

Australian Institute of Health and Welfare, 2020. *Australia's health 2020: Natural environment and health*, Canberra: AIHW.

Boer, M. M., Dios, V. R. d. & Bradstock, R. A., 2020. Unprecedented burn area of Australian mega forest fires. *Nature Climate Change*, Volume 10, pp. 171-2.

Bureau of Meteorology, 2018. *About the Heatwave Service*. [Online] Available at: <http://www.bom.gov.au/australia/heatwave/about.shtml> [Accessed 8 1 2021].

Chandrabose, M. et al., 2019. Neighborhood walkability and 12-year changes in cardio-metabolic risk: the mediating role of physical activity. *International Journal of Behavioral Nutrition and Physical Activity* volume, 16(86).

Coleman, S., 2017. *Australia state of the environment 2016: built environment*, Canberra: Australian Government Department of the Environment and Energy.

Kent, J. & Thompson, S., 2019. *Planning Australia's Healthy Built Environments*. 1 ed. New York: Routledge.

Levy, G., 2012. *The supermarket as an environment for facilitating dietary behaviour change*, Melbourne: Heart Foundation.

Sugiyama, T., Leslie, E., Giles-Corti, B. & Owen, N., 2008. Associations of neighbourhood greenness with physical and mental health: do walking, social coherence and local social interaction explain the relationships?. *Journal of Epidemiology and Community Health*, 62(5).

United Nations, 2019. *Global Environment Outlook 6*, Nairobi: UN.

World Health Organization & Secretariat of the Convention of Biological Diversity, 2015. *Connecting global priorities: biodiversity and human health - a state of the knowledge review*, Geneva: WHO.

World Health Organization, 2019. *The known health effects of UV (the skin)*. [Online] Available at: <https://www.who.int/news-room/q-a-detail/radiation-the-known-health-effects-of-ultraviolet-radiation> [Accessed 8 1 2021].