
Executive Summary

The built environment has an important role to play in supporting human health as part of everyday living. This Literature Review examines the research evidence which demonstrates this link.

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The built environment has an important role to play in supporting human health as part of everyday living. This Literature Review examines the research evidence which demonstrates this link. The primary aim is to establish an evidence base that supports the development, prioritisation and implementation of healthy built environment policies and practices. Further, the Review identifies gaps in the evidence to inform future research directions.

The focus of the Review is on the key built environment interventions or domains that support human health. These are:

1. **The Built Environment and Getting People Active.**
2. **The Built Environment and Connecting and Strengthening Communities.**
3. **The Built Environment and Providing Healthy Food Options.**

These built environment domains address three of the major risk factors for contemporary chronic disease:

- Physical inactivity,
- Social isolation, and
- Obesity.

The Review is structured around the three identified built environment domains. Key themes, strengths and weaknesses in the existing research, recommendations for future studies and policy implications are discussed and summarised for each theme (Section 5). This Section is supported by an Annotated Bibliography of 70 studies (Appendix 3). Each study is summarised and healthy built environment policy implications interpolated from the findings. The evidence in this Review is further

supported by a detailed Glossary of commonly used terms in the healthy built environment literature (Appendix 2). This is particularly important for a Review which embraces an interdisciplinary body of work. We have written the Review with an interdisciplinary audience in mind – professionals, researchers and students from the health and built environment disciplines.

The methodology employed for the Review was systematic and rigorous (Section 4). Built environment and health databases were searched using tailored key word searches (Appendix 1). A burgeoning literature on healthy built environments was identified with specific references subsequently screened using established parameters for the Review (Section 3). At the conclusion of this screening process, 1,080 references remained for inclusion. The identified literature is dominated by research on Getting People Active, with 62 percent of references having a physical activity focus. Eighteen percent and 11 percent of references relate to the other domains of Connecting and Strengthening Communities and Providing Healthy Food Options respectively. A fourth group of references was also established during the categorisation process. This body of work was labelled Professional Development. It includes case studies on best practice models for policy change, research on cost benefit analysis and market demand to encourage policy change, together with work on the theoretical underpinnings of the healthy environment relationship, including the nature of evidence. Nine percent of references were categorised in this way.



Major Themes in Each Domain

The key messages from each built environment domain are as follows:

The Built Environment and Getting People Active:

- A mix of social, economic, political and built environment policies is required to positively influence levels of physical activity.
- Keeping necessary trip distances short through mixed use and compact development will help to make active transport a viable option.
- While higher density areas generally display environments conducive to physical activity, the research suggests that increasing the residential density of the built environment alone will not necessarily encourage increased physical activity. Density, mixed use and micro-design elements *in some combination* are most likely to influence levels of physical activity.
- Destinations give people a place to walk to. Replacing uniform urban form with a variety of uses can lead to shorter distances between origins and destinations, which encourages active forms of transport.
- Grid street patterns decrease distances between origins and destinations. Decreased distance between commonly accessed uses encourages utilitarian physical activity.
- Well maintained footpaths and bike paths encourage walking and cycling for transport, as does the provision of bike parking and other end of trip facilities. Perceptions that cycling is unsafe

because of traffic, and perceptions that walking is unsafe because of exposure to crime, are key infrastructure related deterrents to walking and cycling for transport and recreation.

- People with access to good quality and safe open space are more likely to be physically active for recreation.
- Stair climbing is physical activity which can easily be integrated into everyday life. Visible stairways signed by point-of-choice prompts increase the rate of stair climbing.

The Built Environment and Connecting and Strengthening Communities:

- Community is complicated. This relates to demographic, cultural, ability, socio-economic and other attributes. What works to promote community in one locality, within a particular group or at one time, will not necessarily translate to another.
- The location and treatment of green and open spaces facilitate contact with nature, as well as contact with community.
- Casual encounters with community can occur anywhere. Providing facilities for comfortable waiting at public transport stops encourages the incidental interactions which become building blocks of community.
- Community gardens are forums for incidental and organised interaction. They are spaces for people to establish and maintain



contact with community and contact with nature.

- Both regional scale urban structure and micro scale building design influence incidental interaction on streets and in neighbourhoods.
- While sense of community and social interaction are determinants of health, a large body of research suggests that people will not interact within, or feel part of, a community that they perceive to be unsafe.
- Travel modes affect opportunities for casual social interaction. While active transport presents opportunities for causal interaction not afforded by the private car, it also potentially reduces accessibility to family and friends.
- The built environment can promote orderly social interaction by removing ambiguity in expectations and educating communities about behavioural norms.
- Participation in shaping the built environment supports interaction and psychological health directly by encouraging a sense of empowerment and custodianship. The way the built environment is governed can foster this participation.

The Built Environment and Providing Healthy Food Options:

- There is a clear link between exposure to healthy food options and healthy eating. Attempts to quantify this relationship have been based on mixed methods and have produced mixed results.
- Access to healthy food is more difficult in lower socio-economic status areas. This relationship needs to be further explored in an Australian context.
- Land use around schools can assist in reducing child and adolescent access to unhealthy food options. Nevertheless, further studies of the food environment around schools in Australia are required.
- The link between exposure to community gardens and farmers' markets, with increased consumption of fresh fruit and vegetables, is obvious although difficult to quantify. Markets and gardens also facilitate community interaction and physical activity. They are an extremely valuable element of a healthy built environment.
- Urban agricultural lands play an important part in the production and supply of healthy food to urban areas in Australia and should be protected.
- The impact of advertising signage on healthy food choices, particularly in an Australian context, is under researched.



Policy Implications in Each Domain

The policy implications from each built environment domain are as follows:

The Built Environment and Getting People Active:

- Policies modifying the built environment to encourage health outcomes need to be embedded within an integrated suite of changes. It would be rare for a built environment modification on its own to result in immediate behavioural change.
- Policies to increase land use densities need to be conceptualised as policies which bring uses, and not just people, closer together. Higher densities should be pursued in the context of both the existing macro (regional) urban framework of services and infrastructure, together with the micro urban fabric of design features that make higher densities liveable.
- There is strong research to suggest that visible stairways signed by point-of-choice prompts will increase the rate of stair-climbing. A policy to ensure new buildings are designed and developed with visible stairways might be a good catalyst to develop tangible policy based partnerships between health and planning.
- There is consistent evidence that infrastructure and facilities such as well maintained and connected footpaths, bike paths and open spaces will encourage physical activity. Policies to support the development and maintenance of this infrastructure should be

supported. Policies to make these environments safe (and perceived as safe) from crime and traffic will also encourage physical activity.

The Built Environment and Connecting and Strengthening Communities:

- Planning policies based on new urban design, including increases in densities and mixing of uses, will generally encourage social interaction. These interactions will not occur, however, unless adequate provision is made to protect individual privacy. Such policies should be accompanied by other community building programs, including the establishment of community groups, staging of community events, and even the support of fledging local retailing to ensure their viability.
- Policies to maintain green and open spaces should embrace increased physical activity, social connectivity and improved mental wellbeing as desired outcomes. With continuing growth of urban populations, policies need to target the acquisition of land for greenspace and improve the quality of existing greenspace networks beyond their traditional role as recreational areas.
- Community gardens should be supported by dedicated personnel and appropriate funding. Pursuing partnerships with other agencies such as neighbourhood schools, TAFE colleges, botanical gardens,



gardening clubs, recycling and sustainability groups, and local councils, can be a way to engage community based knowledge, as well as support.

- Policies to involve communities in crime prevention programs and policies based on existing CPTED guidelines need to be pursued. Crime prevention policies must be coordinated with other healthy built environment policies.
- Planning of environments that are new and unfamiliar should include provisions for educational programs and infrastructure. Policies to retrofit existing public spaces and environments with appropriate, creative and consistent signage detailing behavioural expectations should be pursued.
- Public participation provisions in existing built environment policy and legislation should be regularly reviewed to ensure they make use of contemporary technology and are suitable for today's communities. Policies for public participation in governance of the built environment should be adaptable to encourage inclusivity through participation from all community members. The involvement of children in the planning of green and open spaces should be particularly encouraged.

The Built Environment and Providing Healthy Food Options:

- The most convincing literature concerns the co-location and advertising of unhealthy food options near schools. Policies to reduce fast-food exposure in the

vicinity of school environments are justified.

- Given the relative dearth of research on the impact of the built environment on healthy eating options in an Australian context, it is difficult to recommend further policy change beyond that already discussed for encouraging physical activity.



Key Recommendations for Future Research

The key recommendations for future research cut across and synthesise the three built environment domains. In summary, they are as follows:

Focus on How to Change Existing Environments:

Research on the link between health and the built environment has tended to concentrate on what needs to change, rather than how health can be supported by modifying existing built environments. Approaches to retrofit existing built environments in ways that require minimal infrastructural investment require further research.

Pursue Interdisciplinary Understanding:

Major opportunities exist to develop the interdisciplinary nature of healthy built environments research. This needs to focus on how current knowledge about the relationship between health and the built environment is best implemented.

Explore the Evidence Required to Justify Policy Change:

There is a need to explore the standards of evidence required to justify and initiate change in the built environment that will support human health. Establishing non-spuriousness by removing confounding variables (such as residential self selection) and establishing time precedence through longitudinal research, are regularly identified as the missing elements of causal proof. At the same time there are researchers who question whether causal proof of the relationship between the built environment and health can ever be established. More comprehensive ways to explore and understand the issues need to be embraced. This includes the use of

case studies, in-depth observations, cost benefit analysis, environmental and social impact assessment, and demand analysis.

Examine Synergies and Scale:

There is a need to better understand synergies between social, cultural, environmental and economic drivers, as well as between the geographical scales at which these drivers operate. Related to this is the requirement to understand synergies between community subgroups and the way different groups interact with environments and each other.

Pursue Opportunities to Monitor Interventions:

Opportunistic monitoring of interventions should be undertaken, particularly to analyse their impact over time. Researchers and professionals need to work closely so that healthy built environment modifications can be targeted for research. This demands the development of a mechanism to link researchers with relevant professionals such as local strategic planners, consent authorities and health workers to ensure that opportunities for intervention monitoring are not overlooked.

Seek a Balance between Consistent and Adaptive Methods:

There is a need to find a balance between consistent and objective methods to measure and analyse built environment variables and health outcomes. Methods need to



be adaptable to different contexts to enable understanding of the nuances of people and places, including the ways that built environments can be healthy for minority groups, as well as the majority.

The Literature Review concludes with a discussion of the essential attributes of the relationship between health and the built environment that need to be recognised and enacted to progress both the research and its translation into policy.

The key message is that there is a strong relationship between people's health and the built environment and that this relationship is complex and contextual.



