

The Relationship Between the Built Environment and Wellbeing: a Literature Review

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Introduction

Built Environment and Health

The built environment provides the setting and backdrop by which we live our lives, and impacts on our senses, our emotions, participation in physical activity and community life, our sense of community, and general wellbeing. Meanings are generated by buildings and spaces, which we 'read' as we pass through them. Places are created and shaped by those in control of resources and with certain interests, which affects our degree of access to, and the way we use, those spaces.

People living in particular localities may be prone to particular diseases if the aetiology of that disease is located in the environments in which they live. Although disease and illness may be caused by a virus or toxic substance, it may be social institutions and practices which actually create the circumstances in which people come into contact with these disease-inducing agents. Places have certain environmental characteristics, such as the availability of healthy foods, health-affirming services, community norms and so on, which influence health behaviour. Health disadvantage is exacerbated in socially and economically disadvantaged settings. Health promotion strategies need to take into consideration the impact of social structure, place and time on people's health-related knowledge, attitudes and behaviours.

People with disabilities are not only marginalised by social and political structures, but these same structures are reflected in the built environment. These built forms serve to reinforce the physical and psychosocial isolation associated with their disability.

Aesthetics of Place

Spaces, places and buildings are more than just props in people's lives; they are imbued with meaning and resonance, as they symbolize people's personal histories, interpersonal relationships, and shared events in people's extended relationships, families, communities and wider culture. Sense of place refers to the feeling of attachment or belonging to a physical environment, such as a place or neighbourhood, and the sense of personal and collective identity that comes from this sense of belonging. When cherished places, spaces, and settings are destroyed or irrevocably changed beyond our control, we feel a sense of loss and grief. New arrivals frequently experience mental health issues arising from grief associated with forced and often hurried removal from homes, land, and culture, and with limited opportunity to return 'home'. Forced removal from place and land has been catastrophic for many indigenous peoples. People who lose treasured places, such as their suburban homes and surrounds to freeway expansion often have no recourse to expressing their grief or having it acknowledged by authorities.

Legibility and Orientation

Humans have a strong drive to make sense of the environment and to be involved with it. We prefer environments that afford us safety, food and shelter. We are also motivated to locate

environments where our curiosity will be stimulated, whilst at the same time affording a degree of certainty.

Sense of Community

Sense of community has been defined as a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together. The concept of 'community' has traditionally referred to a geographical region, such as a neighbourhood, town or city. However, the term increasingly has come to reflect the reality of industrial society in which people, due to their increased mobility and communications technology, relate to each other outside of any territorial boundary by their shared interests and skills. Sense of community reflects the symbolic interaction in which people engage as they use aspects of the physical environment.

Sense of community emerges from the common symbols people use to designate their sense of belonging to and shared membership in a particular territory, as well as designating their particular personal territory. In addition to the positive influence of existing landmarks, sense of community has been found to be enhanced by urban planning that encourages visual coherence, diversity and attractiveness of houses and other buildings; affords sufficient privacy; ensures residents have easy access to amenities, parks, recreation facilities and a town or neighbourhood centre; offers pedestrian-friendly spaces; provides streetscapes so that houses have views of the surrounding neighbourhood; encourages open verandas and low fences in order to encourage social interaction; and restricts motor traffic.

Transport and Physical Activity

The built environment has a direct influence on people's wellbeing inasmuch as it encourages or inhibits physical activity. Physical features such as bicycle paths and footpaths not only need to exist, but must be sufficiently wide, maintained, attractive, well-lit, and networked to other resources, such as other paths and well-maintained, regular public transport. Physical activity is also affected by people's sense of community, their sense of safety, and their sense of collective political capacity in preserving important community resources such as parks and community centres.

Diversity of building design and land use promotes interaction, psychological interest in and attachment to one's surroundings, a diversity of uses of buildings and space, and thus a diverse range of people who interact in the space spaces whilst pursuing their activities. Urban spaces that are inclusive will be designed to provide opportunities for a wide range of people to participate in these spaces, especially for people from disadvantaged backgrounds. For example, buildings and footpaths will have prominent disability access; roads will have sufficient pedestrian crossings to allow people to cross with ease and with limited waiting times; public transport will be designed to encourage patronage by people regardless of mobility; streetscapes will be attractive and well-lit to promote safety and after-hours access by women and children. There will be special places for young people to congregate, which provide a range of leisure and learning opportunities; they will also feel welcome and

included in general public and quasi-public places, such as shopping malls. This will provide young people with an opportunity to interact with people from other age groups, thereby breaking down social barriers, fostering a sense of belonging, and encouraging young people to take on adult roles and enhance their social skills. These features will provide a wide range of people with the opportunities to live independent lives, thereby enhancing their sense of personal competency and esteem.

Safety and Danger

Satisfaction with features of the local built environment has been found to play a major role in predicting perceived neighbourhood safety, and to act as a stronger predictor of safety than experiences of property violation or personal victimization. Women and older people are strongly affected by the safety implications of isolation. If a space is unused, then it becomes (perceived as) dangerous, because there is no one else to observe the space and the interactions that occur.

Urban planning that encourages pedestrians is likely to reduce crime. Provision of local shops, benches, trees, garden beds and recreational facilities amongst residential areas encourages walking, exercise and neighbouring activity. Mixed housing, which ensures that a variety of people from different backgrounds will be present at any one time in an urban space, ensures that informal surveillance and 'safety in numbers' occurs.

Widespread interaction with others and exposure to other social groups will be more likely to foster tolerance than urban spaces that appear and feel unsafe, and promote single use by particular people or industry. Inclusivity, independence, participation, dignity, self-fulfilment, care and tolerance will be symbolically represented in communities and neighbourhoods in which a range of housing, recreation, leisure, work, transport, education, community support and mercantile options exist for people from diverse economic and social backgrounds, as denoted by the availability of geographically integrated (as opposed to segregated) public housing, parks, public transport, safe and accessible streets, leisure facilities, and so.

Built environments that promote social interaction and participation will also afford the development of social networks, social ties, social support, sense of community, community cohesion and competence, and sense of place -- all seen as important determinants of community mental well-being. Sense of community and sense of place will be more likely when the environment remains stable, or at least when citizens are involved creatively in the transformation of these places. Participation in the ongoing cultural and political life of their neighbourhood is an essential component for enhancing the social capital of the neighbourhood and the sense of community competence and collective efficacy.

Privacy and Crowding

People need both privacy and social interaction. Physical environments can help or hinder our need to find solitude and identify our own personal private 'territory'. Crowding, lack of privacy and control over one's living space may damage social relationships, incite

aggression, abusive behaviour, and substance abuse. Environments need to be designed which are responsive to people's needs for both privacy and social interaction.

Participation and Empowerment

The opportunity to participate in civic life has been identified as a core human need, and essential to the psychological health of individuals and communities. Aspects of the built environment influence participation, in terms of architectural design, population density, and control over environmental stressors; the geographical and built characteristics of a particular district, place or space; and a community's demographic profile, sociocultural norms, traditions, and social and neighbourhood networks.

Meaningful public participation in decision-making on urban environmental issues is seen as important (i) to uphold the notion of participatory democracy, (ii) to the effectiveness of the planning process and the quality of the planning outcomes, (iii) to improve the quality of, and validate, political decision making. Meaningful participation in the decisions that affect people's lives is an integral component of their sense of being sufficiently empowered to have some influence over the course of events that shape their lives. To create living cities and strengthen civic identity, people need to take an active role in claiming their sense of belonging by cultivating political debate over the quality of the built environment and the culture of cities. Health promotion interventions designed to promote healthier built environments need to find avenues for enhancing empowered community participation in the decisions that shape people's surroundings.

Globalisation and Urban Transformation

Cities worldwide are in a process of urban transformation in order to accommodate to the infrastructure requirements of the new world economy. Whilst some cities become 'global' coordinating centres of global enterprise, other, 'lesser' cities, such as Melbourne, jostle for position on the lower ranks of the global hierarchy. Most major cities have seen an explosion of service activity, resulting in many more people (both well-paid and poorly-paid) working in downtown areas. With the rapid gentrification of inner city areas as desirable, convenient locations for high-income earners to live, accessible to their work, low-income people have been forced to leave to cheaper areas. Many then have to spend time and money commuting into the central city to work.

Competition between cities for position has had a major impact on urban design, in terms of their conception, design and approval. Contemporary urban planning is presently characterised by privatisation, liberalisation, subsidisation, commercialisation, and elitism. State governments have sold off and privatised public land assets; government department budgets have been cut and their operations commercialised, with on-costs passed on to the public. Public scrutiny of urban planning and policy decisions is minimized and the state's operations become increasingly elitist. As cities compete for urban development projects that will enhance their global status, they become vulnerable to the demands of global developers for concessions in the areas of tax, environmental laws, labour conditions, access to public

land, fast-tracking of development applications, bypassing of planning regulations, and commercial secrecy.

Features of globalisation developments include large-scale projects such as Melbourne's casino and docklands, corporate office towers, high-rise luxury housing, single-use spaces, privatisation of public space, and an erosion of 'authentic' space that develops organically and haphazardly over time. Globalisation has resulted in a global/local tension in the striving by city planners and entrepreneurs to harness the qualities and idiosyncrasies of local community character to suit the purposes of global capital.

Impact of Globalisation on Victoria's Urban Spaces

Melbourne has recently been undergoing a process of urban renewal, the likes of which have not previously been experienced in many suburbs. Many houses and precincts of character and heritage value have been replaced with hastily-built, multi-unit dwellings, often exceeding height limits and other municipal planning codes. Residents have been concerned not only with the visual impact of poorly designed properties, but also with increased traffic, noise, loss of privacy, and greater impact on sewerage, garbage collection, gas and electricity.

Rural communities have been particularly affected by the loss of 'soft' infrastructure, such as hospitals, libraries, schools, and local Councils. Local services that had been established and supported by local community members, and were a source of community identity pride, were sold, closed, or relocated by unelected local government administrators to inconvenient sites in neighbouring (often distant) towns. Many have had to move to places nearer to remaining health services and jobs. People left behind have felt that their community has lost its collective capacity to care, as community and civic life has begun to unravel.

Gated Communities

Enormous disparities of wealth wrought by globalisation and the increasing divisions between people of differing social class backgrounds, especially the underclass of manual workers. In an example of the potential extremes of geographical stratification, new American suburban subdivisions have often served to segregate people not only by race or ethnicity, but by income level. Gated communities have begun to appear in Australia. Critics of gated communities argue that they create private domains physically and socially removed from the surrounding district or from the wider political system.

Search for Community

In response to the rapid pace of change wrought by globalisation, many home buyers are seeking not to isolate themselves in gated enclaves, but to find and contribute to a local sense of community. Co-housing communities are created by people working together in a highly participatory, consensual fashion to plan and design these 'intentional communities'. In addition to between 20-30 single-family dwellings, co-housing projects have a shared community building in which communal meals and other activities regularly take place. Childcare and other community functions and resources are often shared. Motor vehicles are kept to the periphery of the development. Properties tend to be clustered and slightly smaller

than average, in order to preserve open space for recreation, agriculture or bushland.

Neotraditional, 'new urbanist' communities have taken features from the small town in trying to find an alternative to mainstream suburban development. They are characterized by higher housing densities than common detached housing estates, a greater mix of uses, provision of public transport, including design features that encourage walking and cycling, not least by the provision of a permeable, interconnected street pattern. Strict planning codes have been imposed on these developments, usually by drawing on regional architectural traditions. Critics have questioned whether new urbanism is indeed a new approach to development, or simply another suburb in disguise. Delfin Property Group is seen as an Australian expression of new urbanism.

A third response to globalisation has been for residents to become politically active in attempting to maintain the amenity of their neighbourhoods, as witnessed in Melbourne's Save Our Suburbs movement. Given the pervasive influence of globalisation, cities cannot try to insulate themselves from globalisation's effects. Rather, for cities to attract 'investment without the damage', it is essential that an informed local democracy be nurtured, in which cities and their citizens can learn about the impact of globalisation and debate the kinds of urban environments in which they wish to live and help create.

Planning and Policy Context

Australian city planners have historically been thwarted by their lack of power over the end-use of the land they intended to control for the benefit of the community, through zoning and subdivision. A struggle over planning powers has long existed between State and local governments. This was brought to a climax in the early 1990s after the election of the previous State government, when local councils were sacked, amalgamated, and replaced with government-appointed administrators who frequently made autocratic planning decisions. The privatisation of municipal services through compulsory competitive tendering has contributed greatly to the loss of local governance.

Laissez-faire building codes, such as VicCode 2, and excessive state government intervention in local planning decisions have recently impacted on urban transformation, often to residents' dissatisfaction. Residents advocacy groups called for planning to take into full consideration the rights and expectations of residents, for direct government intervention where necessary to uphold state and metropolitan objectives rather than accede to individual appeals, and for the State Minister for Planning to accept full responsibility for the state and modification of the Victorian planning system.

New State Government

The incumbent Labor government states that it is moving towards a more prescriptive planning approach. Their agenda reportedly aims to re-establish a balance between economic performance and social and environmental sustainability. The Government has stated that it will develop a new, respectful and trustful relationship with local government, in which

powers of ministerial intervention will be clearly outlined and moderated. The new Government has stated it will work to protect the character of Victoria's streets, suburbs and towns, as well as provide communities with a choice of well-designed housing. A new housing Code will be developed through extensive consultation. Special funding will be allocated to regional towns and cities, to assist communities to attract the investment needed to make them preferred places to live and work.

There appears to be a new awareness at senior levels of State bureaucracy and the current State government about the importance of community participation, not only electorally, but also in terms of the quality of urban planning decisions and its impact on the built environment. At this early stage of the new administration, there would appear to a sound appreciation of the rapid pace of change, the evolving nature of change itself wrought by globalised economic rationalism, the widespread angst that this change has been causing, and its impact on sense of community and general wellbeing.

Federal Government

The Federal Government has played a varying role in urban planning policy over recent decades. The Department of Infrastructure currently has very little contact with the Federal government about urban planning issues

About the Author

Iain Butterworth has an educational and employment background in organisational, environmental and community psychology. His perspective as a community psychologist has shaped the orientation of this discussion paper.

Community psychology defines *communities*, rather than individual people, as the primary unit for understanding and tackling social issues. Community psychology examines the fit between groups and their wider community, trying to understand where and why problems may be occurring. This discipline has its theoretical roots in community mental health, clinical psychology, organisational psychology and environmental psychology. The value orientations of community psychology include social innovation and its evaluation, empowerment, a psychological sense of community, an acceptance of diverse cultures, enhancing the potential and participation of all citizens, a preventive orientation, the promotion of individual and community competency, a world view that attempts to view social phenomena in their full 'ecology' or complexity, and the 'professional' as collaborator.

The author worked for some years in Western Australia and the Northern Territory with people affected by HIV/AIDS to develop peer education programs, mutual help (self-help) groups, improve service coordination, and establish community-based volunteer support initiatives. He also worked extensively in New South Wales with people who have had a brain injury, their families, friends, and service providers to establish mutual help groups, develop advocacy training programs, foster a self-advocacy movement, and optimise service provision. This work involved extensive community outreach and liaison, and consultation to a wide range of organizations, including service providers, government departments and community agencies. His recent doctoral research in community psychology investigated the integration of these health promotion perspectives to develop adult environmental education strategies that might foster community advocacy and enhance sense of community. Using an action research approach, he worked extensively with residents in two localities in Melbourne to develop an adult education model that developed skills in peer leadership and community organizing. A key environmental issue on which residents sought to base their learning was the impact of urban development on urban heritage.

Glossary

For the purpose of clarity, the following definitions are proposed:

Health	Health is defined in accordance with WHO (1946): “a state of complete physical, mental and social well being and not merely the absence of disease or infirmity” (cited in Commonwealth Department of Health and Aged Care, 1999, p.3).
environment	The 1998 Draft Commonwealth Environmental Protection and Biodiversity Conservation Bill defined ‘environment’ as including: (a) ecosystems and the constituent parts, including people and their communities; and (b) natural and physical resources; and (c) the qualities and characteristics of locations, places and areas; and (d) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b) or (c) (cited in CDHAC, p. 6).
built environment	<p>Health Canada (1997) defined the built environment as: ... part of the overall ecosystem of our earth. It encompasses all the buildings, spaces and products that are created, or at least significantly modified by people. It includes our homes, schools and workplaces, parks, business areas and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains and across the country in the form of highways (p. 141).</p> <p>The built environment contains “the basic services that are needed to keep a society running”, otherwise known as infrastructure (Health Canada, 1997, p. 143). Infrastructure is seen as essential to health. ‘Hard’ infrastructure refers to those services that are delivered physically, such as roads, communications, provision of drinking water mains, sewage systems, and utilities such as electricity and gas. ‘Soft’ infrastructure refers to services delivered by people, such as education, recreation, bureaucracy, and emergency services such as police and fire.</p> <p>In addition to infrastructure, the built environment can include broad features of urban layout, such as cityscapes (building heights, shapes and overall density) and streetscapes (width, tree cover, housing density, and the diversity of uses to which buildings are put). The built environment can also include a more particular analysis of the exterior qualities of individual buildings, and the architectural features of building interiors (Health Canada, 1997). For the purposes of this discussion paper, VicHealth’s focus will be on features of the exterior built environment, rather than interior architecture.</p>
environmental health	Environmental health has been defined as “those aspects of human health determined by physical, chemical, biological and social factors of the environment” (CDHAC, 1999, p. 3).

Major Dimensions of Research Linking Health to the Built Environment

Cities should be places of laughter, loving, working, learning, selling, buying, dying, birth, debating, arguing, politicking; in short a place to fulfil our emotional, social and physical needs. Yet cities are often places where intimacy is difficult.... Cities that encourage people to move out of the isolation of their homes to discover a wide range of rewarding relationships may be the best form of mental health promotion we can invent (Baum, 1993, p. 33).

“Physical and social planning are unavoidably enmeshed. Environments are typically constructed for social reasons, designs lead to social consequences whether intended or not, and even the humblest construction inevitably acquires a socially ascribed meaning” (Halpern, 1995, p. 2).

Environment and Health

Our species has become predominately urban. In 1950 there were seven cities with populations greater than five million; by 1970, there were 20, and there are now approximately 60. The vast majority (75%) are in developing countries, as people in search of work, food, and shelter surge to the urban fringes from poor rural areas affected by environmental degradation or overcrowding (McMichael, 1993, p. 260). Many cities are expanding faster than governments can plan for them, resulting in piecemeal and overloaded infrastructure, increased social stress, social disorganisation and a decline in social norms: “chronic behavioural disorders, violence, drug abuse, alienation and hopelessness... [are] all problems of a disordered human ecology” (p. 270).

Many facets of urban life can be conducive to good health, in terms of access to education, health care, social support, physical security and material resources. However, there are risks associated in terms of sanitation, crowding, contagion, accumulation of human excrement and household waste, social disorder, industrial and other accidents, pollution and so on (McMichael, 1993). Australia’s high degree of urbanisation means that most environmental hazards originate in the built environment. Headaches, eye strain, respiratory problems, communicable diseases, depression, stress, anxiety, injuries, car accidents and cancers can all be negative outcomes of poor quality urban environments (CDHAC, 1999).

- Urban planning (such as availability and design of housing, public transport, recreational facilities etc)
- Indoor air pollution
- Noise pollution
- The products we purchase, what we use them for and the waste they generate
- Use of fertilisers/pesticides, both domestically and agriculturally
- Motor vehicle emissions that impact on indoor and outdoor air quality

Figure 1: Aspects of the built environment that can negatively affect our health (CDHAC, 1999, p. 51)

History of action on urban health

Organized community efforts to deal with the health impacts of urban infrastructure began in England in the mid-1800s, in response to concerns about the poor quality of living conditions and public health wrought by industrialization and rapid urbanization. The ‘sanitary idea’ viewed epidemics as a function of overcrowding, and poor water quality, sanitation, and food. The movement successfully advocated for improvements to hard infrastructure, such as publicly-funded sewerage systems and public water supplies and paved streets, and increased standards of hygiene and housing (Ashton, 1992).

The sanitary approach, with its strong environmental focus, was eventually superseded in developed countries at the end of the 19th century with the advent of the germ theory of disease. Immunization and vaccination took conceptions of disease from the environmental level towards the level of individual preventive responsibility. This era was itself replaced in the 1930s with the development of insulin and sulphonamide drugs (p. 3). For the next 40 years, public health policy was dominated by the assumption that pharmaceutical drugs could treat all ailments. The recent emergence of the New Public Health paradigm seeks to integrate the key aspects of the environmental, personal preventive and therapeutic eras. It has an ecological focus in that it addresses environmental issues, public policy, individual behaviour, and has an emphasis on holistic health.

- Attention to the health inequalities of poor and disadvantaged people
- Reorientation of medical services and health care systems, from hospital care towards primary health care
- Public involvement
- Partnership between public, private and voluntary sectors
- Adoption of Health Promotion perspective has focused attention on public policy and environmental action, and shift from victim-blame perspective to systems change perspective.

Figure 2: Central components of the New Public Health approach (Ashton, 1992, p.4).

With a current global human population of six billion, Ashton (1992) gave strong rationale for a re-focussing on public health in urban environments. The Victorian sanitary method of disposing of sewage away from its source is only viable when the population is low, and when the biological carrying capacity of the broader receptive environment is strong. “The challenge now is to move towards cities and towns which are based on sound ecological principles” (p. 7). WHO (cited in Ashton) recommended that these principles be (i) minimum intrusion into the natural environment; (ii) maximum variation in a city’s physical, social and economic structure, with mixed land usage and economic activity fostering social sustainability; (iii) efforts to create a closed ecological system, with attention to waste

minimization and renewable water, energy and other resources, and promotion of green spaces to promote the natural environment and foster recreation; (iv) optimum balance between population and resources: the urban environment and its population must respect the fragile natural environments in which they are located.

Three sets of criteria for assessing the health and equity of a city. Baum (1993, p. 32).

- **Physical form:** the use of land, housing type and standard, communications infrastructure, transport provision and the quality of the built and natural environment
- **Interaction:** people come to cities for contact with others. This contact includes politics, work, economic activity, caring, education, recreation and home life
- **Individual experiences** of the city: the sense of history and tradition, life-style, culture, expressions of creativity and art

The environment as the setting for health-related behaviour

The way a community functions is the result of a complex interrelationship between its history, the way that people, groups, and institutions are organized and interrelated, and the way that power and resources are dispersed. The degree of complexity of a community and its interrelationships will largely determine any efforts to change any aspect of it, including the psychological and physical wellbeing of that community's inhabitants. "What happens to the effort will in large measure be determined by the degree to which it is based on a realistic conception of the complexity and distinctiveness of that community" (Sarason, 1974, p. 132).

A feature often overlooked in everyday discussions of health and community affairs, perhaps because it forms the setting and backdrop by which we live our lives, is the impact of the physical and built environment on our senses, our emotions, our sense of community, participation in community life, and general wellbeing. Focussing on health-related behaviour without considering the expanse of contextual factors in which that behaviour occurs - such as urban planning, architecture, economics, institutional arrangements and services, politics, demographics, land values and usage, recreation, education, law, and policing (Sarason, 1974, p. 150) - will yield an incomplete and misleading understanding of the people in that context, and the forces affecting their health-related actions and choices (Sarason, 1974).

Everyday life is 'framed' in the cities, streets, buildings, spaces and rooms in which we live our lives. These places may even become an invisible context for our lives, of which we are not fully aware (Dovey, 1999). Dovey noted that our actions are mediated and shaped by the built environment. Meanings are generated by buildings and spaces, which we 'read' as actors passing through them. Places are created and shaped by those in control of resources and with certain interests:

... primarily the pursuit of amenity, profit, status and political power. The built environment reflects the identities, differences and struggles of gender, class, race, culture and age. It shows the interests of people in empowerment and freedom, the interests of the state in social order, and the private corporate interest in stimulating consumption" (p. 1).

Gesler (1992) noted that whereas the notion of 'landscape' traditionally referred to physical and human-altered environments, it now attempts to interpret human relationships with landscapes by considering sense of place, symbolism, meaning, lived experience, territoriality, and expressions of power and social control. Landscapes are thus not static, but constantly changing and evolving under the combined impact of physical and social factors.

Health promotion strategies need to take into consideration the impact of place and time on people's health-related knowledge, attitudes and behaviours: "the relationship between knowledge, risk and behaviour can therefore be thought of as a complex interaction between structure, agency, beliefs, accounts and action" (Curtis & Rees Jones, 1998, p. 91). For example, people's response to their diabetes it might depend on the places in which they live parts of their lives (e.g., school, office, prison, farm, council estate, factory), and at different stages in their life cycle (e.g., youth vs old age). Kearns and Joseph (1993) argued that concern for health and medical care must take into consideration the impact of place and space on wellbeing, and the seismic shifts that these global changes are having on people's relationship to place - and their health. People may now be in closest contact with those who live far away. Furthermore, services that used to be local and accessible may now be physically distant. Place is directly implied in community health, in that people living in particular localities may be prone to particular diseases if the aetiology of that disease is "embedded in their lived environments... Ideally, health care interventions should be embedded in an overall strategy that acknowledges the spatial interconnection between (un)healthy places and treatment facilities" (p. 712).

Geography of health inequalities

Although disease and illness may be caused by a virus or toxic substance, it may be social institutions and practices which actually create the circumstances in which people come into contact with these disease-inducing agents (Gesler, Bird & Oljeski, 1997). Ellaway and Macintyre (1996) studied the health-related behaviours of residents in four diverse, socially contrasting neighbourhoods in Glasgow. Their investigation showed that, after controlling for the effects of gender, age, social class and household income, residents' behaviour relating to diet, smoking and exercise were directly affected by the particular neighbourhoods in which they lived. 'Socio-residentially advantaged' residents, living in the more affluent districts, were less likely to be living in overcrowded accommodation or, if male, to be unemployed. They were most likely to own a car and be of higher socioeconomic status. They were also most likely to eat healthy food, least likely to eat unhealthy food or smoke, and most likely to be partaking of sporting activity. The authors suggested that places have certain environmental characteristics - such as the availability of healthy foods, health-affirming services, community norms and so on, which influence health behaviour, either by the presence or absence of 'cues for action' (see Janz & Becker, 1984).

Physical environment
Availability of health/unhealthy environments
Services provided
Socio-cultural factors of neighbourhood or locale
Representation of neighbourhood

Lay systems of beliefs and behaviours Labour markets

Figure 3: Influences of place on health (Macintyre et al., 1993), cited in Curtis & Rees Jones, 1998, p. 95

A similar geographical pattern of health inequality has been documented in Australia. The Social Health Atlas of Australia, released in 1992 by the then federal Labor government, confirmed the widespread perception “that where we live is linked to how much (or how little) we earn, and ultimately to how we feel” (Ragg, 1992, p. 34). Ragg considered the Atlas a clear indicator of the geographical relationship between socioeconomic factors and health indices. Places that had “the least money, fewest professionals, more rental housing, more new migrants, more unemployed, more unskilled workers, more homes without cars” also showed evidence of more violence, heart disease, cancers and morbidity (p. 35). These places also tended to have more people living in single parent families, reliant on welfare, renting government housing stock, and “leav[ing] school early to go to jobs that don’t exist” (p. 35). People who were wealthy felt better more frequently and were less likely to become ill. However they were more likely to experience melanoma from exposure to the sun. The Atlas was a reminder that health-related behaviour is directly affected by social opportunities and economic conditions.

Curtis and Rees Jones (1998) cited evidence that “health disadvantage is exacerbated in socially and economically impoverished settings, particularly in declining industrial areas” (p. 102). They argued that because of the relationship between social class and its geographical location, capital, power and control have a particular geographical dispersal. Health disadvantage can thus arise from any combination of the material conditions in the physical environment, such as quality of housing and employment opportunities; the range and quality of services and amenities available, such as food outlets, health services and parks; and the overall ecological state of the landscape, such as pollution, congestion, and maintenance of public space. “These landscapes are often determined by the most influential and privileged groups in society and are of greatest benefit for them” (p. 92).

Ellaway and Macintyre (1996) offered a succinct summary of the implications for public health policy of the impact of the built environment:

... Attention should be focused on places as well as people. Health needs assessments for example could examine the provision and costs of healthy foodstuffs and recreation facilities in given localities, as well as the dietary and exercise habits of their residents... [H]ealth promotion activities need to focus on the properties of health promoting neighbourhoods as well as on particular population groups such as the young or the socially deprived. Patterns of food retailing, allotment provision, non-smoking environments, indoor and outdoor sports facilities, policing, road and pavement maintenance and public car park provision may be as important for health related behaviours as the knowledge and attitudes of individuals in particular socio-demographic groups (p. 446).

The experiences of people with differing physical and mental abilities

The experiences of people with differing physical and mental abilities serve as a graphic example of the impact of spaces and places in mediating human behaviour, and in reflecting and replicating social relations (Curtis & Rees Jones, 1998). Citing research by Golledge, Imrie, Levy, and Smith, Curtis and Rees Jones noted that people with disabilities are not only marginalised by social and political structures, but that these same structures are reflected in the built environment, in the form of inaccessible buildings, footpaths, streets and transport. These features serve to reinforce the physical and psychosocial isolation associated with disability. Therefore, “the impact of place is variable, depending on individual attributes” (p. 90).

VicHealth’s (1999a) Mental Health Promotion Plan documented research identifying several major influences on mental health, in particular social connectedness, freedom from discrimination and violence, and economic participation. The presence of “diverse, inclusive and tolerant communities” (p. 5), are seen as essential for fostering mental health. Social connectedness is promoted by fostering social networks, stable and supportive environments, a variety of social and physical activities, access to social networks and supportive relationships and holding a valued social position. Freedom from discrimination and violence is afforded by a sense of physical security, and opportunities for self-determination and control over one’s life. Economic participation was a function of access to work and engagement in meaningful activity, education, adequate housing, and money (p. 10).

Halpern (1995) identified the built environment as having four potential sources of influence over mental health: (i) as a source of stress; (ii) as impacting on people’s social networks and support; (iii) through the symbolic function played by architecture and planning, and the impact of social labelling; (iv) the nature of the planning process itself (p. 2). The provision of amenities and urban design features that provide an opportunity for a wide range of people to participate in the life of their community symbolically denotes that all people hold a valued social position. In contrast, incidence of mental ill-health is exacerbated in economically deprived and socially distressed locales which become socially segregated ‘welfare ghettos’ with an above average supply of mental health services, the migration to these areas of people who use them, as well as the increased incidence of mental illness due to the dilapidated nature of that district (Kearns & Joseph, 1993).

Aesthetics of Place

We do not just ‘exist’ within a physical environment - we interact with it and derive important meaning from it (Altman 1993). Altman noted that the physical environment is more than an influencing factor in people’s behaviour – “it is also a medium, milieu or context in which personal relationships are embedded, and without which they cannot be viable” (p. 34). Spaces, places and buildings are more than just props in people’s lives; they are imbued with meaning and resonance, as they symbolize people’s personal histories, interpersonal relationships, and shared events in people’s extended relationships, families, communities and wider culture. Indeed, Boyer (1994) described cities as repositories of ‘collective memory’. Environmental meanings are not only constructed by individuals, but

also by the broader culture and social structure in which people live (Saegert & Winkel, 1990). The built forms with which people interact are richly embedded with symbolism, and evoke various sentiments, emotions and meanings (often ambiguously), and can provoke certain actions (Cohen, 1974, Dovey, 1999). However, appreciation of the link between the quality of people's relationship with place and their individual and collective well-being has been somewhat limited in western culture (Read, 1997).

Curtis and Rees Jones (1998) define *sense of place* as "the meaning, intention, felt value and significance that individuals or groups give to particular places" (p. 86). Sense of place refers to the feeling of attachment or belonging to a physical environment, such as a place or neighbourhood, and the sense of personal and collective identity that comes from this sense of belonging (Jacobs, 1995; Rivlin, 1987). Jacobs argued that place attachment is a deep human trait:

People do not simply look out over a landscape and say 'this belongs to me'. They say, 'I belong to this'. Concern for familiar topography, for the places one knows, is not about the loss of a commodity, but about the loss of identity. People belong in the world: it gives them a home (p. 109, original emphasis).

Places can act "to define the individuals to themselves and to the world", especially when people fulfil a particular role in that place, such as a nurse in a local hospital, or a child taking on the role of student at a local school (Rivlin, 1982, p. 79). Rivlin noted the connection between place attachment, the development of local connections and roots linked to a person's personal history, and feelings of comfort and security. Place attachment reflects the expectations people hold as to where and how they plan to live their lives in the future (Altman, 1993). When cherished places, spaces, and settings are destroyed or irrevocably changed beyond our control, we feel a sense of loss and grief (Read, 1996), similar to that felt at the loss of a personal relationship which was expected to last indefinitely (Altman, 1993).

Gesler (1992) noted the importance to the psychiatric literature of patient attachment to place. He cited Godkin's research into the experience of people affected by alcoholism. Alcoholics' low self-esteem was found to be partly related to their feelings of disconnection from any particular place; particular places often symbolised failure, threat, or rejection. In many cultures throughout history, societal deviants - whether people labelled as insane, criminals, poor, or physically ill, have often been physically removed from everyday life and incarcerated, in order to uphold the social order. This removal from known places (by inducing 'homesickness') may in fact serve to further damage their wellbeing. Gesler noted the persistence of calls for quarantining in times of disease, even (or especially) when its health benefits are unproven, as in the case of AIDS.

Dovey (1999) cautioned against the use of the term 'sense of place', given that all places are expressions of power and ideology. He argued that "the shopping malls, office towers and housing enclaves... are examples of where 'sense of place' is reduced to stenographic and rhetorical effect as a cover for place destruction" (p. 44). He argued that any investigation into people's lifeworld also needed to investigate the impact of social structure and ideology

on people's lived experience. Otherwise, "a focus on experience runs the risk that the ideological framings of place remain buried and hence powerful" (p. 44). Dovey was concerned that people need to be aware of the expressions of power in the places and spaces in which they live their lives, and in which elements of the social structure are codified and otherwise reproduced (see Giddens, 1984).

The psychological impact of loss of place

Rivlin (1982) noted the connection between place attachment and the development of local connections and roots linked to a person's personal history, and feelings of comfort and security. Giddens (1984) described 'ontological security' as a person's foundational degree of security in the ongoing predicability and control of everyday life, sufficient and necessary to permit them to engage in their activities of daily living and achieve higher-order psychosocial development. Trust in others and society is seen as "the deepest-lying element of the basic security system" needed to control existential anxiety (p. 50). A person's basic routines are profoundly disrupted by critical situations, when habitual ways of interacting with the world are swamped by apprehension. Self identity and personal growth at any stage of one's life are hampered if one is stuck in a hostile, unpredictable, un-trustworthy, anxiety-invoking environment.

Unlike the English language, the Spanish have a word, *destierra*, to describe the psychological effects of being uprooted, displaced, or dispossessed from a loved place (Read, 1997). New arrivals from oppressive regimes are frequently traumatised - loss of place may be a factor in their ontological insecurity. Many Australians may have difficulty comprehending the *destierra* experienced by new arrivals, many of whom experience mental health issues arising from grief associated with forced and often hurried removal from homes, land, and culture, and with limited opportunity to return 'home' (VicHealth, 1999a).

Forced removal from place and land has been catastrophic for many indigenous peoples, such as Australian Aborigines, for whom the notions of one's people and place are inseparably bonded (Barwick, 1991). "Belonging to the land is fundamental to the cultural life, history, spiritual wellbeing and identity of Indigenous people" (VicHealth, 1999a, p. 39). Widespread depression, grief, sadness, stress, trauma, suicide, and self-harm have resulted from loss of land (p. 40). Read (1996) suggested that an explanation for the State's resistance to appreciating the spiritual and emotional loss experienced by Aborigines in relation to removal from their own lands, the very real "social and spiritual decay and death" (p. 11) and loss of a decisive say in how those lands are managed, can be found in the Anglo denial of sense of place and the lack of an English term comparable to *destierra*.

People who lose treasured places, such as their suburban homes and surrounds to freeway expansion, may also lose some fundamental trust, such as the sense of security that the family home was their 'sanctuary'. With a limited lexicon to describe the impact of one's forced removal from place, people in dominant Anglo cultures may have difficulty comprehending the emotions they feel as they watch favourite public spaces or even places where they have never lived being demolished or redeveloped without their approval or informed consent.

People forcibly separated from these physical spaces through political planning decisions often have no recourse to expressing their grief or having it acknowledged by authorities (Read, 1996, 1997). Developers are usually emotionally unattached to the places they seek to redevelop. Yet they often allow people to create memorials to their memories once the sites have been redeveloped. “Let us not underestimate the effect which the loss of dead and dying places has on our own self-identity, mental well-being and sense of belonging” (Read, 1996, p. xii).

Our relationship with the places we know and interact with, is thus not abstract, but is close and intricate. As the places in which we live and interact change, so do we undergo personal change (Hiss, 1990). Losing one’s home or neighbourhood to an urban planning decree can be even worse than losing it to a natural disaster. Survivors of natural disaster receive public sympathy and disaster relief. Yet by comparison, people forced to evict their houses for the expansion of a freeway or major development may receive little sympathy or financial compensation (Read, 1997). Hiss argued that to avoid this psychological malaise, we must agree to change only insofar as it (i) encourages people’s growth and potential; (ii) protects and enhances the environment; and (iii) contributes to economic prosperity.

Need for interventions to foster sense of place

The provision of human services - such as shops, banks, post offices and health care can impact on a person’s sense of place. For example, in rural areas, a post office might enhance sense of place “by representing a point of contact with the worlds both beyond and within” (Kearns, 1991, p. 519). In contrast, a large, impersonal hospital might induce feelings of placelessness, and hold negative connotations for patients. Kearns adopted the term, ‘health of place’, to portray a community’s degree of cohesion and vitality; it can be seen that this term links health with sense of place and sense of community. “The potential for health care services to contribute to the uniqueness of an area and consequently people’s experience of place has not been explored” (p. 520). Kearns advocated for community health facilities that engage with their local communities in finding ways to make their facilities highly locally relevant and integral to fostering sense of place, by becoming venues for community conversation, peer networking, and community development to build on strengths and identify issues.

Social support is a key element to sustainable communities: “community life is sustained when social networks are strong, when there are people with common interests and who feel a sense of common fate” (Berkowitz, 1996, p. 452). Berkowitz stated that opportunities need to be created to encourage residents to physically see each other, in order to begin to get to know each other through socializing and talking. Safe, attractive public spaces and venues need to be built to encourage community mingling and socializing. He stated that the path to community participation begins with seeing, and knowing, liking, trusting, and finally, acting. Hiss (1990) argued that a key resource in replenishing treasured places is people’s ability to *know* their environment (long overlooked and devalued) and their capacity to explore their interaction with it through their own senses. “If people learn to recognize the cultural landscape as an expression of their lives, they may come to see its protection as a means of self-preservation” (Afshar, 1998, pp. 18-19).

Legibility and Orientation

Environmental preference is not a frivolous human preoccupation, but, along with the notion of aesthetics, is closely tied to evolutionary survival. People choose environments in which they will survive and thrive, in which they will be able to employ their abilities and survival skills and thus meet their needs. Of course, these needs may not function at the conscious level; they may also be affected by individual characteristics and experiences, and sociocultural factors (Kaplan & Kaplan, 1982a, b). People are constantly striving to make sense of their world, and have an innate curiosity to discover new information. They like to share their knowledge, and find it validating to be listened to as they share it. Moreover, “people hate being confused, disoriented, incompetent, and helpless” (Kaplan & Kaplan, 1989, p. 63). The Kaplans noted that human cognition probably evolved before language, and thus the perception and cognition of visual and spatial information has played a central role in human evolution, and remains central to human thought.

Humans have a strong drive to ‘*make sense*’ of (interpret) the environment and to be *involved* with it. We prefer environments that afford us safety, food and shelter. We are also motivated to locate environments where our curiosity will be stimulated, whilst at the same time affording a degree of certainty. We seek situations in which our cognitive maps will be extended but not overloaded. Environmental preference is closely tied to the effective selection and processing of information. Environments will be preferred that allow people to make sense of them and facilitate involvement and interaction. Environments that ‘make sense’ afford a degree of coherence; the individual parts combine to form a harmonious whole. Distinct elements of the environment combine to imply continuity, such as clumps of trees or groups of windows. Those environments that involve people contain sufficient complexity and ‘mystery’ to invite further exploration. Legibility - such as a depth of field - gives the participant the confidence that they will be able to comprehend their environment as they pass through it (Kaplan & Kaplan, 1982a, b).

People initially tend to evaluate buildings for their overall, affective impact, rather than for specific detail (Rapoport, 1982). It follows that people’s preferences for specific urban areas or styles of housing reflect the meaning that these environments hold for them. Therefore, cities, parks and houses not only arouse specific feelings in individuals, but provide clues about the attitudes of the people who designed them, and also about those who inhabit or use them. Rapoport argued that an understanding of the latent function of designs, in affording a sense of meaning through a person’s interaction with it, is central to a meaningful conception of the environment. Furthermore, meaning was seen as culturally variable.

Rapoport (1982) felt that insufficient attention had been paid to the meaning that users derive from their interaction with the built environment. He stated that designers and planners often clash with users over intended meaning and purpose. Designers tend to focus on the perceptual (manifest) features of built forms, whereas users or inhabitants tend to view the same structure in associational terms (i.e., connected to a particular memory, associated with a specific task or function). He stated that for users, a feeling of self-control and personalization of the environment is a crucial element in their satisfaction. Users need to decorate or personalize their habitat (house or neighbourhood), which ultimately become more important than the architectural features. Architects have tended to oppose or ignore

this human need, focussing on style (or utility), rather than the affective significance of the environment. Designers (and by extension, developers and urban planners) have frequently resisted giving control of expression, or meaning, to inhabitants.

Built Form and Sense of Community

In addition to practical infrastructure needs, communities will have deeper needs which must be met, in order to be fully sustainable, such as 'community spirit', or sense of community (Berkowitz, 1996). Sense of community has been defined as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (McMillan and Chavis, 1986, p. 9).

Whereas the traditional concept of 'community' has referred to a geographical region, such as a neighbourhood, town or city, the term increasingly has come to reflect the reality of industrial society in which people, due to their increased mobility and communications technology, relate to each other outside of any territorial boundary by their shared interests and skills. In reflection of the impact of modern society on notions of community, McMillan and Chavis' (1986) influential definition of sense of community incorporated not only a geographical component, but also a 'relational' component. Yet Glynn (1986) showed that people who included the notion of 'neighbourhood' when defining 'community' were more likely to demonstrate higher levels of sense of community, community satisfaction and community competence, than did those who did not include neighbourhood in their definition. In addition, those who did not associate notions of neighbourhood with community were more likely to show a disparity between their 'ideal' notion of a community and the communities they perceived around them. This shows the enduring impact of the geographical or territorial features of our surroundings, despite our tendency in post-industrial society to overlook these in favour of the 'relational' aspects of community.

According to McMillan and Chavis (1986), sense of community comprises four elements: (i) membership; (ii) influence, (iii) integration and fulfilment of needs and (iv) shared emotional connection. Membership refers to the feeling of belonging and relating to others. Secondly, influence refers to a person's sense that their membership matters to other members and makes a difference to the group, and that the group matters to them. The third element, integration and fulfilment of needs, refers to the reinforcement that people derive by having their needs met by being part of the group. Finally, shared emotional connection refers to members' sense of shared history, places, time, symbols and experiences.

Sense of community attempts to "characterize the relationship between the individual and the social structure" (Chavis & Wandersman, 1990, p. 56). Sense of community is seen to reflect the symbolic interaction in which people engage as they use aspects of the physical environment. Sense of community thus emerges from the common symbols people use to designate their sense of belonging to and shared membership in a particular territory, as well as designating their particular personal territory.

Neighbourhoods can be designated by government officials for administrative purposes. Alternatively, they can develop organically over time, resulting from extended patterns of interaction, folklore and identification. Membership can derive from the symbolic boundaries and landmarks that people use to denote their neighbourhood (McMillan & Chavis, 1986), such as roads, railway lines or buildings, or other, more subtle markers, such as signage or graffiti. McMillan and Chavis stressed the importance of shared symbols to sense of community. In local neighbourhoods, the symbolism of locally treasured architectural landmarks can provide a sense of collective identity, as well as serve as a boundary from other districts. They provide people with a sense of membership and belonging. As a neighbourhood's buildings - public landmarks as well as private houses - provide the physical backdrop by which people live their lives, attend local community events and interact with each other, it thus follows that people will develop a shared emotional connection to their local built community landmarks.

Urban planning and sense of community

In addition to the positive influence of existing landmarks, sense of community has been found to be enhanced by urban planning that encourages visual coherence, diversity and attractiveness of houses and other buildings; affords sufficient privacy; ensures residents have easy access to amenities, parks, recreation facilities and a town or neighbourhood centre; offers pedestrian-friendly spaces; provides streetscapes so that houses have views of the surrounding neighbourhood; encourages open verandas and low fences in order to encourage social interaction; and restricts motor traffic (Altman, 1975; Appleyard & Lintell, 1982; Beach, 1995; Berkowitz, 1996; Watt, 1982; Wilson & Baldassare, 1996).

Plas and Lewis (1996) documented the link between the architectural design of an urban space and sense of community. Seaside, a coastal town in Florida, USA, was planned specifically to foster a sense of community amongst locals and visitors alike. It was planned to maximize resident interaction by a building code, modelled on pre-automobile towns, which minimized the intrusive effects of cars by limiting on-street parking; provided attractive pedestrian promenades and sandy lanes which passed by almost all houses, thereby providing the town with a degree of 'permeability' that encouraged walking, networking and neighbourly behaviour; ensured that all homes were close to the town centre and its public spaces and buildings (such as shops); provided parks, recreation and sporting facilities in such a way that their availability, positioning and informal design encouraged fraternizing amongst strangers; and ensured that each house was attractively painted, visually complemented all other houses yet was in some way different, had views to other houses, pedestrians and the beach, had low fences, and had a porch close to the footpath to encourage socializing.

The town planners intended sense of community to be an explicit outcome of the combined effects of streets, paths, low fences and front porches. That their plan had succeeded was evidenced by the high degrees of socializing on porches and streets between total strangers who were renting a holiday house. Ironically, the town has been such a success that property costs (renting or purchasing) are now beyond the reach of most people. The town was

designed to accommodate people from a variety of economic backgrounds. However, the town increasingly is home to 'upscale' people. Nevertheless, even itinerant/commuting workers indicated that they would rather work there and be paid less than work elsewhere, due to the sense of community they experienced. Plas and Lewis (1996) concluded that it had been the town's physical environment which had fostered such an immediate sense of community amongst residents, visitors and workers. The town's aspect had significantly helped to 'create the possibility of community', rather than leaving residents to do it all on their own. Therefore, environmental planning may be a crucial element in helping to create a sense of community in urban centres. Interestingly, the planners of Seaside have gone on to design other new towns, or restore dilapidated town centres. Plas and Lewis indicated they do so in collaboration with community members, in contrast to town planners who often develop plans in isolation, before presenting a *fait accompli*.

This focus on designing communities is not new: throughout much of the 20th century in the USA, urban planners sought to design 'neighbourhoods' that would provide decent housing and therefore promote civic participation. However, in practice, pre-existing, organic, diverse neighbourhoods - usually in poor, working-class areas - were demolished against the wishes of residents in order to create planned, ordered, sterile and insular upwardly-mobile neighbourhoods more akin to the tastes of middle-class, environmentally determinist planners. The urban poor were often forcibly removed 'in their own best interests' (Goldfield, 1987).

According to Beach (1995), British commentators have long been lamenting the erosion of a neighbourhood sense of community. Beach argued that sense of community is being lost because of the fragmentation of neighbourhoods and concomitant loss of social support networks and community facilities. As a result, residents have become more interested in themselves than of their neighbours - and occasionally even afraid of them. Yet early 20th century British urban planners placed high importance on a visually coherent neighbourhood in order to foster a sense of community. Planners drew on the visual coherence on pre-capitalist communities such as medieval villages, with the centrality of public spaces in fostering a sense of communal living and sense of belonging. Community centres were designed to fulfil this role; other planners favoured social integration of people from across the social strata in order to prevent social segregation and class-based hostility. Active members of a local geographical community were seen as essential elements in a thriving participatory democracy. It was seen in the national interest to foster local sense of community through sensitive town planning. The 'new urbanism' movement, of which Seaside is an example, is attempting to recapture sense of community in this manner, and will be discussed in full in Chapter Two.

Transport and Physical Activity

The built environment has a direct influence on people's wellbeing inasmuch as it encourages or inhibits physical activity. Although moderate exercise has been shown to play a key role in maintaining health and well-being, and this fact is accepted by the population, many people are not exercising enough, and some not at all. However, appeals to individuals to increase their activity have failed in the absence of an audit of the features of their physical

environment that might be inhibiting their ability or desire to become more active (National Heart Foundation, 1999).

The NHF's Supportive Environments for Physical Activity program (SEPA) conducted a detailed, systems-level analysis of the environmental, social and institutional factors that affect freedom of movement within a neighbourhood, and the attainment of exercise and well-being. The project, based in the city of Marion in Adelaide, investigated ways of enhancing opportunities for people to improve their rates of physical activity and participation in their local neighbourhood by addressing those features of the physical environment that affected physical participation. The project aimed to highlight aspects of the physical environment that needed to be changed in order to invite and support people to engage in exercise as part of their daily living activities of work, shopping, child care and leisure, as opposed to a specific planned activity. For example, physical features such as bicycle paths and footpaths not only need to exist, but must be sufficiently wide, maintained, attractive, well-lit, and networked to other resources, such as other paths and well-maintained, regular public transport (NHF, 1999). The research into Marion residents' views on their local built environment, captured through focus groups and interviews, determined a number of features as conducive to activity and incidental exercise, which are summarized below.

Research participants identified that their physical activity was also affected by their sense of community, their sense of safety, and their sense of collective political capacity in preserving important community resources such as parks and community centres. People who jogged or walked regularly around their neighbourhood reported their enhanced awareness of, and concern for, their neighbours' well-being as they began to get to know people on their rounds, and found out about events in people's lives. This sense of connectedness added to their sense of security. Schools were seen as providing a nexus for community life. A diversity of ages was seen to add to the sense of community.

- availability of open spaces, especially in combination with living close to the city
- convenient proximity to parks, shops, services, recreation facilities, and schools - this was especially important for ageing people, and those not using cars
- streets with shady tree-coverage, and footpaths
- convenient access to medical services, seen as important for older people
- the use of school ovals - not only for organised sporting activities, but for general recreation, such as walking the dog
- local aesthetics - the attractiveness of street-scapes, and local parks
- low traffic density in residential areas

Figure 4: Features of local built environment that foster physical activity (NHF, 1999).

SEPA participants identified many issues with transport and its impact on their activity levels. Pedestrians' needs were seen as being overlooked in highway design, in the increased volumes of traffic, in the absence of sufficient pedestrian crossings, in obscured pedestrian

crossing points, and in the amount of pollution emitted by vehicles. Bus routes were not sufficiently well scheduled, and their schedules insufficiently well-displayed. Public transport in general was seen as inaccessible for people with mobility problems. The train station was perceived as an unsafe place at night. Graffiti made people feel more insecure. Cycling was seen as a dangerous activity in present road, parking, and traffic conditions. Footpaths were seen as needing repair to make them even, accessible, continuous, well-lit, and free of vegetal debris that might cause someone to slip. SEPA respondents were also extremely concerned about Education Department plans to sell-off a well-loved green space (community park) used by thousands of people for community sport. People were worried that a key resource for recreation, exercise, sport and community events might be lost to housing subdivision. People were organising and advocating for the preservation of open space, and the creation of pedestrian crossings on busy roads (NHF, 1999).

St Kilda: a 'permeable' neighbourhood.

As in many parts of Melbourne, a network of lanes connects streets throughout St Kilda. This allows residents to pass through their neighbourhood without having to traverse major roads. This encourages residents to explore their neighbourhood on foot. The Neptune Lane walkway is a relatively new laneway, owned by a body corporate, but providing residents with access between streets in St Kilda. Residents of the building that owns the Neptune Lane walkway recently unsuccessfully lobbied to close off public access to it, arguing that the lane has fostered burglaries, that plants in the laneway have been stolen, that graffiti and littering have occurred, and that property has been damaged. However, more than 110 community submissions were received against the proposal to close off the lane. Community residents drew attention to its popularity and importance as a pedestrian route, and challenged claims that the walkway promoted crime (Davis, 1999a).

The SEPA findings on transport support Appleyard and Lintell's (1982) research which documented the inverse relationship between traffic density and urban amenity and sense of community. In their study, increased traffic was associated with increased stress from noise, fumes, and soot; decreased sense of safety on the street; decreased sense of control; decreased social interaction with other local residents, decreased numbers of local acquaintances and friends; lower levels of social interaction on the street; decreased sense of neighbourhood; decreased sense of responsibility for picking up litter and keeping the street clean; and increased attempts to retreat into privacy from the noise outside, with a corresponding reduction in residents' notions of personal territory. Residents of a street with heavy traffic viewed it as minimally responsive to their needs, in contrast to residents with only light traffic. Residents of the street with heavy traffic were more likely to be transient, renting, and without children, or in a position of little choice to move. Many long-term residents in heavily trafficked areas had lived there whilst the street lost its amenity over many years, perhaps explaining why less complaints were made than the researchers expected. However, these were often people who could not afford to move.

The NHF (1999) identified the need for a systemic, multi-level, cross-sectoral response: "The issues highlighted through the focus groups have implications for both policy and practice in

many areas of government at all levels, including urban planning and design, social and environmental planning, public health, transport, and safety” (from web-site, conc4.html).

Safety and Danger

Satisfaction with features of the local built environment has been found to play a major role in predicting perceived neighbourhood safety, and to act as stronger predictor of safety than experiences of property violation or personal victimization (Baba & Austin, 1989). Baba and Austin concluded that a neighbourhood with improved environmental qualities would increase residents’ concern over the appearance of their neighbourhood, and their neighbours’ participation in maintaining residents’ collective welfare. As a result, perceived neighbourhood safety would increase, with a presumed reduction in fear of crime. The authors measured the environmental characteristics of a neighbourhood using a composite scale assessing satisfaction with the pride people show in their neighbourhood’s appearance; local efforts to pick up litter; open spaces between houses; and peace and quiet. Also assessed were respondents’ satisfaction with other residents, in terms of the way they were perceived to keep a lookout for others’ property, and the extent to which they could be trusted. Neighbourhood safety was assessed according to perceptions of whether people needed to lock their doors, whether homes were vulnerable to break-ins, whether pedestrians might be attacked, and whether personal property could be left safely outside the home.

Health Canada (1997) identified that crime and the fear of crime itself were directly impacting on Canadians’ health. More people were experiencing significant stress arising from the fear of crime than from any direct experience of crime. As in many Australian urban environments, Canadian cities and urban spaces are widely dispersed, which discourages walking and cycling, and makes provision of public services, such as transport, expensive. Twenty-five per cent of Canadians felt unsafe walking in their own neighbourhood at night. Ten per cent of all men and 42% of women felt unsafe (p. 144). Whilst the crime rate was acknowledged as being influenced by socioeconomic factors such as poverty, drug use, and the degree of social cohesion, it was also found to be influenced by the built environment.

Women interviewed in the SEPA study were seen to be strongly concerned about the safety implications of isolation. One older female respondent would not walk the 10 minutes to her house from the bus-stop for safety concerns. People were well aware that if a space is unused, then it becomes (perceived as) dangerous, because there is on one else to observe the space and the interactions that occur. Several interviewees were uncomfortable about walking through empty spaces, especially at night. People identified that to feel safe in a place, they needed the space to be well-lit, open (with not too many obscuring trees/shrubs), and with other people around (NHF, 1999).

Good environmental planning is only one factor in creating safe communities, but one that plays an important role when combined with other strategies (Abbey & Butten, 1997). Abbey and Butten noted that there are ‘opportunity costs’ (lost opportunities for participation, commerce, and community life, for example) to be considered in people (especially women and older people) forsaking urban spaces, activities and modes of transport due to fear for

their safety. These are added to by the financial costs and inconvenience of having to use private cars and taxis to avoid an area considered unsafe to travel on or pass through at certain times or places. Urban environments need to be safe, accessible, and invite participation by people from all sectors of the community.

Safety issues need to be considered *before* the building site and structure are designed. Issues such as sufficient windows along the side of a building to encourage natural surveillance; designing streets and spaces to encourage clear visibility, a diversity of activity and use throughout the day (by providing for mixed housing, retail and commerce, workplaces, education, entertainment, and dining out), and promoting prosocial behaviour and perceptions of safety. “There is a return to the land use mix principle for economic, environmental, social and safety reasons. The answer to problems caused by land use separation, dormitory suburbs, and large-scale single purpose areas is to mix and intensify land uses. Modern employment, work and social trends are demanding *proximity* rather than *mobility*” (Abbey & Butten, 1997, p. 58).

Mixed use suburbs and precincts encourage multiple activity, passive surveillance, save energy through minimization of energy expenditure to attain services or commute, promote a sense of safety and encourage participation by women and other vulnerable people after hours. Mixed usage can be encouraged by ensuring that the mix of planned usages will be compatible (eg., child care next to work sites; cafes next to offices); creating a spine of mixed use, such as along main streets or railway stations; create ‘positively prescriptive’ design codes that encourage building design to foster passive surveillance of local streets, encourage mix of high-density uses in highly accessible locations - such as railway stations - to attract a wide range of people into these spaces; balance narrow or ‘negative’ land usages (eg., for nightclubs) with other land uses in a similar broad category (such as entertainment/culture) - eg., shops, theatre, restaurant. A wide range of people can be encouraged to engage in a range of activities in any particular space by ‘programming’ a range of activities for this space. For example, culture and recreation programs can be organized for different times of the day/year in parks, thereby increasing the intensity and diversity of their use, and adding to perceptions of safety (Abbey & Butten, 1997).

Key community concerns on crime and safety issues by residents in Melbourne’s Banule local government area (Banule City Council (1999))

- perceived link between youth and threats to personal safety; realisation that young people had insufficient opportunities to meet informally
- urban and environmental design - poor natural surveillance of parks, car parks, streets, malls; poor lighting; vandalism and graffiti; need for improved lighting, maintenance, and design
- insufficient police presence
- drugs and alcohol
- negative media influence on perceptions of crime and safety
- older adults’ concerns about their safety
- safety fears expressed by women about going out alone at night, and for their children
- poor staffing and security of public transport
- specific district identified as unsafe because of unkempt parks and public housing areas; perception of widespread crime

- specific commercial area considered unsafe because of poor design, poor location of amenities and car parking, poor lighting, concerned about large numbers of youth hanging out in the area 'up to no good'

Privacy and Crowding

People are engaged in a dialectic relationship between the need for privacy and the need for social interaction (Altman, 1975). Physical environments can help or hinder our need to find solitude and identify our own personal private 'territory'. Territory defines the 'degree and permanence of ownership' (p. 209). People use two mechanisms - personal space and territorial behaviour - to regulate their need for privacy. Primary territory, over which we attempt to have complete control, includes our homes and gardens, or personal space within shared accommodation. Secondary territory refers to spaces which are under the partial control of the occupant, such as the space outside an apartment or house. Public territories are less easy to define. Entrances, play areas, and hallways are all secondary or public territories. Intrusion can result when a territory has been inappropriately defined. Therefore, clear delineation is essential to maintaining harmony in high density housing. "Conflict, stress, and other costs are likely to the extent that people have to struggle with inappropriately designed environments" (p. 211). Environments thus need to be designed which are responsive to people's needs for both privacy and social interaction.

Participation and Empowerment

Participation

The opportunity to participate in civic life has been identified as a core human need, and essential to the psychological health of individuals and communities (Berkowitz, 1996). Berkowitz argued that the concept of sustainability, currently discussed in relation to environmental issues, can be applied to people and communities as well. A person's well-being is sustained when their physical, emotional, sexual and cognitive capacities are exercised. When applied to communities, sustainability suggests that the capacity of a community will be maintained when all of its component parts (or resources) are being used effectively. However, as few resources are identified in a society where much community life is lived in private, one task of health promotion can be to help identify a community's human resources. Another task is then to encourage their use. Berkowitz argued that this could be done: his adage was that "people want to do meaningful civic work" (p. 451). He argued that if systems were developed to encourage participation, and if people were asked to do so, then, over time, they would.

Citizen participation has been defined as "involvement in any organized activity in which the individual participates without pay in order to achieve a common goal" (Zimmerman & Rappaport, 1988, p. 726). The nature of participation can range from engaging in formal decision-making processes, such as contributing to government advisory committees, to informal activities such as mutual-help groups, grassroots organizations, volunteer agencies, and other community service roles. Participation may also be deemed illegal, such as acts of civil disobedience and other, more 'radical' forms of social action (Florin & Wandersman,

1990; Rubin & Rubin, 1992; Zimmerman & Rappaport, 1988). By participating in the decision making of the institutions that affect them, people have been shown to help to make improvements to their community, develop stronger social relationships, and increase their individual and collective sense of confidence and political power (Florin & Wandersman, 1990).

Several factors influence participation, including the overall community context in which participation occurs; individual differences; the style of participation occurring; and the effects of participation on individuals, organizations and communities (Wandersman, 1981). Most important to understanding the link between the built environment, participation and wellbeing is the overall community context. This can include: (i) environmental characteristics - for example noise, architectural design, population density, and control over environmental stressors; (ii) ecological factors - such as geographical and built characteristics of a particular district, place or space; and (iii) social characteristics - including a community's demographic profile, sociocultural norms, traditions, and social and neighbourhood networks.

The built environment thus plays a key role in fostering a sense of community and in influencing participation in local neighbourhood life (Chavis & Wandersman, 1990). Indeed, participation in community groups has been found to be more likely to be stimulated by social and physical features of their environment, such as fewer barriers on residents' property, improved street lighting, and street width, than simply by people's demographic characteristics or their fear of crime (Perkins, Florin, Rich, Wandersman & Chavis, 1990). Perkins et al concluded that community organizers might be more likely to encourage neighbourhood participation by providing residents with an opportunity to engage in positive efforts to enhance the physical and social amenity of their neighbourhood, rather than resorting to making negative appeals to people's fear of crime. Collective problem solving encourages social interaction, information sharing and a sense of solidarity amongst residents (Perkins et al., 1996). Sense of community is, thus, both a cause and effect of community participation.

Community participation in urban planning decisions

Humans are visually and spatially oriented animals, very much concerned with the visual and spatial configuration of their everyday environments... People can make better decisions when they understand what is proposed, and in the area of physical design and planning, understanding is often synonymous with 'seeing' ... While the expert is pivotal in the generation of design alternatives, the public is often quite capable of evaluating them (Kaplan & Kaplan, 1989, pp. 82-83).

Despite people's potential for a sophisticated reading and articulation of their environments, designers have been reluctant to invite citizen participation (Harrison & Howard, 1980; Stamps & Miller, 1993). Local community perspectives on urban planning often differ widely from those of authorities or, by extension, developers. Local residents often see urban renewal projects as opportunities to establish projects that will enhance the existing sense of

community and the life chances of existing residents. Conversely, planning authorities that tokenistically involve residents and then ignore their suggestions may result in poor planning decisions, superficial short-term 'solutions' to social problems, conflict and alienation (Clunies-Ross, 1994). Meaningful public participation in decision-making on urban environmental issues is seen as important (i) to uphold the notion of participatory democracy, (ii) to the effectiveness of the planning process and the quality of the planning outcomes, (iii) to improve the quality of, and validate, political decision making (Sinclair & Diduck, 1995). Sinclair and Diduck argued that citizens need to learn how to participate meaningfully, if it is to be anything other than an alienating, tokenistic example of corporate public relations.

Arnstein (1969) identified the importance of differentiating between 'empty rituals' of participation in planning and citizens having real power needed to affect the outcome of the process. She argued that public involvement exercises frequently involve informing, placation or consulting, rather than offering any degree of citizen control, delegated power or genuine partnership embodying shared decision-making. When attempting to participate effectively in formal hearings, community groups, already forced to defend their position, must locate sufficient funds to pay legal and administrative costs, and gather appropriate technical information in their attempt to participate as equals in formal environments. The technical and legal jargon used in these formal hearings often alienates community members, and discounts their strongly-held place attachments and experiential knowledge (Rich, Edelstein, Hallman, & Wandersman, 1995). From the above discussion it can be seen that meaningful participation in the decisions that affect people's lives is an integral component of their sense of being sufficiently empowered to have some influence over the course of events that shape their lives.

Empowerment

According to Ng (1980), a sense of power is central to an individual's psychological health. Ng likened the notion of personal power to that of competence. Competence was seen essentially as having control over one's activities: "A feeling of social competence is said to build up from the successful experiences of producing intended effects on other people... Being competent results in the experience of efficacy" (p. 129). The motivation to achieve self-efficacy is self-rewarding, and with the achievement of competence is essential for psychological health and self-actualization. By implication then, powerlessness is an undesirable psychological state for individuals - and by extension, communities.

Empowerment has been defined as the process by which people gain efficacy and control over their own lives while learning to participate democratically in the life of their community (Zimmerman & Rappaport, 1988). Kieffer (1984) viewed empowerment as a developmental process, "of becoming, as an ordered and progressive development of participatory skills and political understandings" (p. 17). The attainment of these insights and abilities defined as 'participatory competence' (p. 18). Participatory competence incorporates three elements: (i) the development of a more positive sense of self competence; (ii) the construction of a more analytical understanding of the sociopolitical environment and (iii) the development of individual and collective resources for social and political action. Collaboration with others was seen as the key to attaining participatory competence.

Rappaport (1987) argued that empowerment not only conveys a psychological sense of control but is also concerned with actual social influence, political power and the rights of all individuals, groups and communities in certain situations.

A delineation between processes and outcomes is essential to a clear definition of empowerment theory. Empowerment processes focus on the efforts by individuals, groups and communities to enhance their critical understanding of the sociopolitical environment and gain access to, and control over resources (Zimmerman, 1995). “Empowering processes for individuals might include participation in community organizations. At the organizational level, empowering processes might include collective decision making and shared leadership. Empowering processes at the community level might include collective action to access government and other community resources...” (Perkins & Zimmerman, 1995, p.570).

Empowered outcomes refer to the consequences of empowering processes. “Actions, activities or structures may be empowering, and that the outcome of such processes result in a level of being empowered” (Perkins & Zimmerman, 1995, p.570). For individuals, empowered outcomes could include the perception of having gained control over certain situations and domains of their lives, and the attainment of participatory competence. Empowered outcomes for organizations could include enhancement of organizational effectiveness through network development and lobbying power. At the community level, empowerment outcomes might refer to the development of coalitions between organizations, the development of more and better community resources, and planning decisions that enhance urban amenity and foster participation, activity and exercise, and sense of community.

Participation and empowerment are key principles of health promotion. Health promotion recognizes that people should be able to make healthful choices with greater ease; this requires an enabling political environment. Health promotion has attempted to address sociopolitical aspects of health by focusing on issues of power, social structure and social processes. It requires a critical analysis, and acknowledgement, of the imbalance of power, ownership and control, and the fact that vested interests maintain this imbalance (Bunton, 1992; Farrant, 1991; Tannahill, 1985). Therefore, health promotion interventions designed to promote healthier built environments need to find avenues for enhancing empowered community participation in the decisions that shape people’s surroundings.

Recommendations for Making Built Environments More Responsive to People’s Environmental Preferences and Encouraging Their Participation and Wellbeing

In advocating ‘healthy planning’, the Commonwealth Department of Health and Aged Care (1999) noted that Australia’s increasingly urbanised spaces are shaped by urban planning and building regulations, standards and codes. Therefore, in order to promote urban spaces that are ecologically sustainable, these standards must “provide a framework that can be used to deliver safe and healthy environments in which individuals and communities can flourish” (p.

51). An increased focus on health in all aspects of planning is essential. In particular, the Strategy argued that urban planning needs to promote the health of all Australians, including those with special needs, by providing adequate public transport, housing designs that minimize environmental risk (and, by extension maximize wellbeing), the use of environmentally benign products, provision of shade in public spaces, and access to safe recreational amenities. Healthy planning needs to be reflected in the level of awareness of environmental health in the workforce, by provision of appropriate environmental health information systems, sound communication and consultation, community health plans, environmental health impact assessments, appropriate urban design and building standards and codes, and appropriate supporting legislation.

Carr (1982) provided nine recommendations for improving urban form so as to make it more responsive to people's environmental preferences, encourage their participation, and maximize wellbeing. Carr's recommendations encapsulate the dimensions connecting health and the built environment discussed in this chapter, and are summarised in Figure 5 below.

- Planners need to provide a range of 'action settings', including transport options, so that people do not have to engage in detailed planning in order to engage in a specific activity (e.g., shopping) or obtain a particular experience (locating a playground).
- By making environments interesting, sufficiently complex, and sufficiently mysterious, people will be encouraged to explore them.
- The perceptual elements of a city's form need to be made sufficiently amenable to being recognized, identified and remembered. A balance must be found between complexity and simplicity in individual design elements.
- City areas need to be made comprehensible in terms of helping people to orient themselves, negotiate their way around and through different sectors, comprehend street numbering arrangements, and so on. This implies the need to provide clear street directions and local area maps in accessible places.
- The special character of places needs to be emphasised, in order to foster place attachment. This approach might also increase the variety of locale-specific experiences in a city, and serve to limit the uniform blandness of built forms that would otherwise decrease their ease of recognition or interpretation.
- Settings, places and elements that afford the highest degrees of shared functional and social significance need to be made easily accessible, so as to reinforce their common significance and foster shared sense of place. This could help to insure preservation of widely-valued settings.
- Where possible, the users and occupants of personal spaces should be able to manipulate and modify them to suit their individual tastes. This would help to increase the variety of built forms within the systemic constraints placed by planning regulations, which seek to balance diversity with overall coherence.
- Spaces need to be designed so as to provide a range of particular experiences in juxtaposition. Providing people with opportunities to experience a range of stimuli – both temporal and spatial – as they pass through a precinct or area, would help them to form strong associative links between places, objects and events. A range of routes could be provided to a specific destination, each with their own character.
- Settings should be designed to enable and facilitate the activities that people plan to execute within them. This highlights the need for participative planning, in order to identify potential users' needs, preferences, and intentions.

Figure 5: Recommendations for designing urban spaces to reflect environmental preferences, promote place attachment and enhance participation (Carr, 1982).

Implied in Carr's (1982) recommendations is the need to involve citizens meaningfully in the planning, implantation and evaluation of urban planning decisions. Rogers (1988) argued that to create living cities and strengthen civic identity, people need to take an active role in

claiming their sense of belonging by cultivating political debate over the quality of the built environment and the culture of cities. Enhanced citizen participation and leadership is required to revitalize the social and physical quality of our urban spaces. Rogers called for children to learn and be educated about their urban environment, so that they would in turn “participate in the process of respecting and improving the city” (p. 25). It is suggested that education for adults is equally if not more pressing, given adults’ ability to vote and their greater potential to influence decision-making.

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