

PLAY ENVIRONMENTS IN THE SUSTAINABLE COMMUNITY

Corkery, L.

Head of School, School of the Built Environment
Faculty of the Built Environment
University of New South Wales
Sydney NSW 2052 Australia
l.corkery@unsw.edu.au

Abstract

Over the past 20 years, the ideal of “sustainability” has been increasingly applied across a wide range of pursuits. In its simplest expression, sustainability is ‘development that meets the needs of the present without compromising the ability of future generations to meet their needs’ (WCED 1982), and it is typically evaluated against environmental, social and economic criteria.

This paper takes the position that play environments should be considered within the broader context of sustainable urban development, and in fact, could be thought of as an “indicator” of a sustainable community. Good planning results in play environments that are located within walking or bicycling distance, and designed to encourage regular use, generate physical activity and increase social interactions between people. When understood within this holistic framework, play environments become significant links within the community that reflect quality of life expectations, express a sense of place, provide equitable access and underpin the concept of connectedness and attachment to place.

1 Introduction

The important relationship between child development and play has long been accepted by early childhood theorists and practitioners (Frost 1992). In the last fifty years, planners and designers have benefited from this knowledge when they turned their attention to the design of play environments for children, seeking to develop play structures, arrangements of equipment and other elements in ways that would support positive play and learning experiences for children. (Lefaivre 2002, Bennett 1999, Dattner 1969). In the past several decades, however, some planning research has addressed the issue of children in the city and investigated the ways in which children access – or experience exclusion from – the urban environment. Their research and writings have revealed the importance of a wide spectrum of places in which children play and participate in the life of the city (Moore 1986, deMonchaux 1981, Ward 1977).

The needs of children have never assumed a particularly prominent role in urban planning, but the health and well being of children certainly benefited from the concerns of the social workers and early urban planners at the turn of the 20th century who advocated for public parks, designated playlots and gymnasium-type equipment in school yards (Frost 1992). At the end of the 20th Century, advocates for the New Urbanism and “smart” urban growth initiatives again include public health as an impetus for a new approach to designing communities. They promote traditional neighbourhood forms claimed to be more conducive to more physical activity, eg walking and bicycling, and social interaction. (Frank *et al.* 2003, Calthorpe and Fulton 2001).

Recently, alarming statistics on the raising incidence of obesity and related illnesses (diabetes, heart disease, some cancers) and the increase in mental disorders (depression and anxiety) and their relationship to alcohol and drug use have triggered a discussion about the links between public health and the design of the built environments in which we live, work and play (Capon 2003, Frank 2003). In the past decade, public health officers and strategic planners have begun talking to each other about how their once separate concerns might be intersecting. Those promoting an integrated discussion of the issues, are basing their arguments on the desire to think about how urban planning and design will be able to produce more “sustainable” communities – sustainable in more than just the environmental sense.

This paper considers how the goal of creating sustainable communities might be assisted with the creation successful play environments (including playgrounds) throughout our cities and communities; successful in the sense that they attract positive use and contribute to the sustained quality of life of a community. Play environments will be discussed against the three commonly used criteria for assessing sustainability, i.e. social, environmental and economics, for the purpose of advocating their benefits and ensuring their continued provision and enhancement in our communities.

2 What is sustainable development?

The term “sustainability” and phrases such as “sustainable development” and “ecologically (or environmentally) sustainable development” (ESD) have become standard in the lexicon of planning policy and design over the past 20-some years. Originating from the United Nations’ Environmental Summit of 1982, this simple statement has become an oft-cited definition: ‘Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED 1987, p.43).

“Best practice” for planners and designers typically includes delivering ESD outcomes – from such abstract ideas as “livable communities”, to more specific expectations such as adhering to design standards and selecting materials and finishes that meet strict production or safety standards. Developers evoke the ideals of sustainability in the marketing of new projects, suggesting that ESD has a monetary value, as well as social values. Publicly-listed companies are required to provide triple-bottom line, or TBL, reporting as part of their annual reports; TBL reflecting the social, environmental and economic dimensions of their commercial operations. Local governments prepare annual State of the Environment reports which include indicators of program changes in service delivery, recycling services, and other initiatives seen to contribute to a more sustainable community. However, with the word “sustainability” being used in all of these contexts, it is important to remember that sustainability is not an end state; not a final goal achieved by working through a list and ticking the boxes as items are completed. It is a guiding principle, an evolving condition and a continually negotiated process (Tilbury and Podger 2003).

The concept of sustainability was originally concerned with the conservation and/or degradation of natural resources and environments. Increasingly, it is being linked to the physical and emotional health of individuals and their communities. For example, the push to plan and design for “healthy communities” has been taken up in the United States by the Robert Wood Johnson Foundation and its “Active Living by Design” initiative which provides research money for investigating the connections between design of the built environment and public health issues. The following definition of the “built environment” from Health Canada is informing the discussion among North American researchers in their investigations of the links between public health and the quality of life benefits of sustainable communities and the built environment:

The built environment includes our homes, school, workplaces, parks/recreation areas, 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. The built environment encompasses all buildings, spaces and products that are created or modified by people. It impacts indoor and outdoor physical environments, e.g. climatic conditions and indoor/outdoor air quality, as well as social environments, eg civic participation, community capacity and investment, and subsequently our health and quality of life (Health Canada in Srinivasan, *et al* 2003).

The September 2003 issue of the *American Journal of Public Health* featured over 40 research articles investigating the connection between public health and the built environment. One, for example, concluded there is a connection between the existence of ‘social capital’ and the availability of “walkable” neighbourhoods, i.e. neighbourhoods characterized by:

- safe and accessible sidewalks, crossings and bike paths
- public transport alternatives with safe access and good integration between modes of travel

- safe, attractive and convenient parks and recreation facilities
- schools, commercial centers and public services that can be accessed without private vehicles (www.asla.org/Members/ppl/healthy/communities.html accessed 28 October 2003).

In Atlanta, Georgia, the Centers for Disease Control and Prevention jointly sponsor the program, “Designing and Building Healthy Places” which recognizes the relationships between health issues, eg. physical activity and land use, respiratory health and air pollution, children’s health and the built environment, and accessibility (<http://www.cdc.gov/healthyplaces> accessed 17 January 2004).

In Australia, similar approaches are being introduced at the state and local level. The Parks Victoria focus on Healthy Parks is a good example of a state agency promoting healthy lifestyles. Research is underway there to determine the impacts of parks and the local environment on the physical activity habits of families. The proximity of parklands and residential areas provides for easy accessibility and the parks themselves can become centers of activity for this kind of promotion. A similar initiative – “Healthy Parks, Healthy People” – was launched in October 2003 by the Sydney Urban Parks, Education and Research (SUPER) Group. Baseline data will be collected prior to implementation of the program in order to compare the impact that this type of promotion has on individual and community health indicators.

For landscape architects, the link between community health and the built environment has long been understood. Last year, 2003, marked the 150th anniversary of the opening of Central Park in New York City, one of that city’s most famous landmarks and the premier legacy of landscape architect, Frederick Law Olmsted. At the time of its construction in the mid-1800s, New York City was experiencing severe environmental crises as a result of the overcrowding of people into dirty and disease-ridden tenements and poorly serviced urban neighbourhoods lacking in the most basic sanitary infrastructure and social services.

Olmsted, inspired during his travels in England by the People’s Park at Birkenhead in Liverpool, conceived of a great open space, a natural sanctuary that would provide respite from the conditions of city and encourage a more civilized public life for city dwellers (Warner 1992). A century and a half later, Central Park continues to be the epitome of the urban park ideal, ie. a natural open space reserve that provides a contrast to the density and development of the city that crowds its perimeters and open space, a wooded Ramble, habitat for birds and wildlife, and a range of possibilities for recreation of every kind, active and passive. It endures as a symbol of how a park can influence the physical evolution of a city’s form and transform, programmatically and physically, to meet the changing needs of its residents over five generations. The prophetic wisdom of Olmsted was acknowledged at the national convention of the American Society of Landscape Architects in 2003, when Dr. Richard Jackson, Director of the National Centre for Environmental Health, identified the built environment ‘as a critically important and under-appreciated environmental health issue’ in his paper entitled, “What Olmsted Knew” (www.asla.org/Members/ppl/healthy/communities.html accessed 28 October 2003).

3 How can play environments contribute to a “sustainable community”?

Broadly speaking, sustainable development incorporates key themes such as ecological sustainability, intergenerational equity, social justice, cultural diversity, intercultural understanding, equality, fair distribution of wealth and resources, democracy and peace (Tilbury and Podger 2003). While it continues to be a highly contested concept, the key focus of sustainable development is ‘quality of life’ – itself another debatable concept that ultimately will have various meanings for different people. Consequently, communities themselves, must decide what, for them, constitutes a sustainable community with a high quality of life.

If we value children in our society and have a genuine concern for their present and future well-being, and quality of life, then the play environments we provide could be considered to be an indicator of that level of commitment. The built and social environments in which children develop will in turn influence their attitudes and values about many things: respect for the natural environment and its unique characteristics, interest in and respect for cultural diversity, desire to constructively participate in community life, motivation for lifelong learning and personal productivity, etc. Admittedly, most of this learning happens at home, in long day care, at

school, or at church. But, human beings enact community life in the public domain: on the street, in the marketplace, shopping centers, parks and open spaces. Play environments, including playgrounds, are in the public domain and are gathering places where children are likely to have some of their initial interactions with other children who are *unknown* to them. Therefore, these are the places where children have the opportunity to be socialized to the idea of community life, outside the more comfortable, familiar domains of home and school.

The following sections look at how the qualities of sustainability relate to play environments, first discussing their social qualities; then their physical qualities *vis-à-vis* environmental concerns; and finally giving thought to how economic considerations are factored into decisions about play environment provision.

4 Social dimensions of sustainable play environments

In their book, *The Ecology of Place*, Beatley and Manning identify a series of factors that are characteristic of the social qualities of sustainable communities. From their list, the following four factors have particular relevance to this discussion of sustainable play environments. Beatley and Manning consider that sustainable places:

- have regard for the quality of life – for current and future generations
- are expressive of a sense of place
- are equitable and just for all users
- are planned and designed to respond to and underpin the concept of “community” (Beatley and Manning 1997).

The following discussion examines how these characteristics might be applied to play environments within a community.

4.1 Quality of life – for current and future generations

... sustainability must incorporate a strong social component. Along with ecological issues, then, sustainable communities are equally concerned with social and human sustainability – creating and supporting human living environments, livable places, and communities that offer a high quality of life...(Beatley and Manning 1997).

Looking at typical play environments in our communities, how do they reflect our concern or commitment for providing a high ‘quality of life’ for children? Accepting that play environments are the primary public setting for physical activity and social interaction of young children, we would expect those places to be:

- well designed with regard for child development considerations, ie providing for gross and fine motor skills, encouraging interaction between children, and between children and adults
- located in areas where they can be readily and safely accessed, preferably by walking or bicycling
- provision of a range of places across the spectrum, from smaller close-to-home places and larger more developed playgrounds within the urban context
- free of hazards and toxic elements
- inclusive of and enhancing natural elements and local ecosystems
- integrated with other community activities, so that children’s activities are welcomed in the community.

Is this the case? Can we find examples of this in our local communities? Are we meeting the needs of the current generation, let alone future ones?

4.2 Expressive of a sense of place

To foster a sense of place, communities must nurture built environment and settlement patterns that are uplifting, inspirational, and memorable, and that engender a special feeling of attachment and belonging (Beatley and Manning 1997).

There are a number of specific playground designs completed in recent years that have captured unique qualities of their specific locations and that provide children (and adults) a unique experience. A 'sense of place' is firstly derived from the unique natural context of a setting, e.g. its landscape, topography, vegetation, animal life. The sense of place can be enhanced (or destroyed) by the built features that humans add to it. In the case of play environments, places can be memorable for their familiarity, how they "blend into" the environment and thus engender a sense of comfort and attachment. The places that are favoured by children use in their daily play patterns have been well documented by Cunningham and Jones (2002) and Moore (1986).

Alternatively, memorable play environments can be one-off type of play experiences incorporating unusual equipment, water play, unique art. The unfamiliarity of the place and its elements combine to create a sense of exhilaration and animated play. The waterplay feature at The Entrance at Gosford designed by Environmental Partnership and featuring the mosaic-covered sculptures of Philippa Playford is such as place, as is the play environment at Hen and Chicken Bay, in Sydney, featuring wood-carved installations by artist/designer Jane Cavanough.

Play environments that tell a story or recount local history, contribute to a sense of community, continuity and connectedness, and can be enjoyed at many levels of meaning by adults and children. For example, the playground at Rouse Hill Regional Park, a design collaboration of Phillips Marler and Jane Cavanough, recounts a narrative of the early settlers of that region of Sydney through the play sculptures and vernacular design of associated park structures.

4.3 Equitable and just for all users

Visions of a sustainable community must be accessible ones. Sustainable for whom? One that is open to all racial, cultural, age, income groups and that encourages social and cultural diversity. It is also a place that strives to be gender neutral and ensure physical access and social opportunity to all its members. A sustainable community, therefore, is a just and equitable community (Beatley and Manning 1997).

In the public domain, planners and designers in Australia are required by law to provide access for all users. Playgrounds, being in the public domain, also come under this requirement, and providing play experiences for children of all abilities is a challenging goal for designers. Pecky's Playground at Prospect Reservoir in western Sydney, was one of the first playgrounds for all children in Australia. Purpose-built in the 1970s, it is now a well-worn play environment worthy of upgrading, and the bush setting in which it is located is still a valuable asset for play. Recent projects in local government playgrounds are demonstrating the possibilities for integrated play experiences. An good example of this is the new playground in Gordon at Ku-ring-gai Municipal Council's Bicentennial Park designed by Fiona Robb .

Another dimension of 'accessibility' is the equity of access to public open space and play environments, available for public use with no entry fee. To be able to go to a public park, have access to a well maintained and provisioned recreation space is a great advantage to a community. But how valuable? How do we ascertain the economic value of these places when these benefits are perceived to be intangible?

4.4 Responds to and underpins the concept of "community"

The role of public parks cannot be underestimated, not only in terms of the natural and recreational amenities they provide, but also for their contribution to enhancing face-to-face

interaction and strengthening community....opportunity they provide for organized or spontaneous contact with other community members (Beatley and Manning 1997).

This factor highlights the relationship of the physical place and the feeling of connectedness and attachment that it can generate. Sometimes contact with others in public places revolves around a programmed event, such as a market day, an arts festival, or a cultural celebration. The interactions may be direct or indirect, where a diverse mix of people is tolerated and, indeed, desirable. Other times, unplanned meetings take place between regular users of a favourite playground or picnic area, in which interactions are more serendipitous. For some open space users, the elderly in particular, the “interaction” may be more passive, less overt, i.e. just observing others in public places provides a sense of connection to the community (Cooper Marcus and Francis 1990). For young children, playing in a public setting gives them the chance to interact, have new experiences, negotiate, communicate and share in play activities with friends and with children they don’t know.

Public places that are part of a daily or weekly routine take on a special significance, recalling Oldenburg’s concept of the “third place”, i.e. a place beyond one’s home, the “first” place; and the workplace, or “second” place. These “third places” are where informal public life occurs and include local coffee shops, pubs, cafes; ‘hangouts’ that Oldenburg and others feel are increasingly endangered in today’s built environment. ‘These are places where one can come and go as one pleases and where “conversation is the main activity” ’ (Oldenburg 1989).

Some play environments function this way, particularly in places where they are well located in relation to local community activities; perhaps in conjunction with a feature that is also part of adults’ daily routines, or in the park adjacent to school. An excellent example of this is the young children’s play environment in the Centennial Parklands associated with the restaurant and kiosk. This has become a popular gathering spot for many eastern Sydney suburb parents and childcarers. In survey work carried out there in 2001, 62 percent of the respondents to the interviews visited there daily, spending 1-2 hours per visit including a walk and having coffee while the children played. This regularity of use at a venue designed to provide parallel activities for adults and young children, qualifies this spot as a “third place” for this particular community of users (Corkery 2001).

Because children today are generally reliant on adults to take them places, we might well ask: Whose “third place” is it, really – the kids’ or the adults’? Both groups benefit from the social interaction, but clearly the adults are more engaged in conversation as the main activity. However, there is still social exchange between children, and conversation at whatever level they can manage, considering that over 50 percent of the children using this play environment are under the age of three (Corkery 2001).

5 Physical dimensions of sustainable play environments

The physical aspects of play environments are given priority in standards of design and construction, material choice and siting. These standards relate primarily to safety and material performance issues. When we consider these features within the scope of sustainability, we are also concerned for how our choices may affect the longevity of the play environment itself, as well as the projected life cycle of the materials used, their impact on the surrounding ecosystems or neighbourhood, etc.

Play environments that are planned and designed with sustainability principles in mind have likely been initiated after a site selection process that respects and sensitively incorporates existing ecosystems. The designer has been mindful of locating the play environment to take advantage of or enhance the local setting, rather than starting with a blank slate and layering over it with a horticultural mono-culture of mown lawn, with no trees, little planting, etc

The play environment furnishings can also be evaluated from the viewpoint of sustainability. What materials have been used in the manufacture of the play structures? The “embodied energy”, for example, of powder-coated steel or high-density plastics, is considerable. Some play equipment now available on the market is manufactured from recycled plastics. Is that preferable to using timber? If we do use timber, how do we select

select it for construction? Is it sourced from renewable plantations, or can we use recycled timber? And how is the timber treated? Are there other natural site materials included in the design of the play environment, e.g. boulders, plantings, gravel, river stones, etc.? From where are they sourced – locally, interstate, internationally? How will these materials be recycled at the end of the playground's life cycle?

What is the most sustainable choice for undersurfacing material – from a sustainability viewpoint? Pine bark mulch? Recycled rubber products? And, how does the permeability quality of the various surfaces exacerbate or assist stormwater drainage?

What plants are we adding to this site? Are they compatible with the indigenous vegetation of the site? Will the new landscape require frequent maintenance and chemical treatment to keep it in good order for public access? Shouldn't the maintenance regimes of play environments and their surrounds be totally pesticide free?

These questions remind us of the multiple and interlocking environmental considerations that should be factored into our decision making when considering the physical dimensions of sustainable play environments. While a lot of work has been done in this area relating to building products for structures and building systems, I am not aware of comparable information for landscape projects and play environment design, in particular. This is important data to be assembled to assist designers in making more informed choices.

6 Economic dimensions of sustainable play environments

The final dimension of sustainability to consider is the economic, i.e. the relative cost of the initial capital expenditure and requisite recurring expenses to maintain the play environment measured against the potential benefits. If we contend that "improved public health" is the benefit, there needs to be some means of capturing this information more convincingly. This requires interdisciplinary research to take what has been discovered through epidemiological studies and compare it to our understanding of the ecological systems in urban areas and the built environments that impact them, and then expressing that in costs and benefits. For example, it may be more beneficial to provide more but smaller playspaces throughout a community, i.e. ones that are closer to home and safely accessed along footpaths, than to rationalize these small parcels into fewer but more extensively developed district or regional scale playgrounds. Or, perhaps the budget is better spent getting kids on bicycles and we should concentrate on building safe bikeway systems throughout the entire metropolitan area, focusing less on providing specific places for play but expanding the opportunities for playful activity and incidental physical exercise throughout our neighbourhoods and communities.

How and what do we measure or compare? Is it useful to look at the total area of designated play environments in a community versus the incidence of childhood obesity, or diabetes? Can we determine the cost to the state of an overweight child, or one with diabetes? How does the cost of trying to prevent that illness compare with the total expenditure of creating and maintaining play environments or cycle systems? These questions will require us to chart new social geographies and think about municipal accounting in new ways.

7 Directions

Why do we need to even think about play environments in the context of sustainability? Perhaps it is better (easier?) to remain focused on specific play environment design issues as they relate to safety, injury prevention, increasing physical activity to help avoid childhood obesity.

It is critical to keep the needs of children, most importantly their right to play, at the forefront of the broader public discussion of planning and designing human settlements. In doing so, we are continually reminded of our commitment to providing for children in the community, and doing so under the umbrella of sustainability. While the provision of play environments might be a relatively minor consideration on the spectrum of urban development and land use decisions made at the metropolitan scale, they are nevertheless significant components of the urban framework in the lives of children. The presence of successful, high quality play environments, i.e.

well designed, well used, well maintained, and a happy, healthy population of children may well be an excellent indicator in future assessments of the sustainability of a community.

Finally, we must always remember that the ‘future generations’ of whom we speak so abstractly in the sustainability discourse, are in fact the children who share our lives now. They can and should become involved in planning for future environments, e.g. the play environment, schoolgrounds, the local neighbourhoods and community places. Engaging children early in the process of planning introduces them to imagining future possibilities, considering the needs of others, sharing community resources, identifying values, understanding the consequences of taking one action over another – all skills that are central to preparing children for an active role in sustaining the communities of *their* future.

References

- Beatley, T. and Manning, K. (1997), *The Ecology of Place: planning for environment, economy, and community*, The Island Press, Washington, D.C.
- Bennet, P. (1999), ‘M. Paul Friedberg: Social force projects, 1988-2000’, *LandForum* 8, 31-40.
- Calthorpe, P. and Fulton, W. (2001), *The Regional City: Planning for the end of sprawl*, Island Press, Washington, D.C.
- Cooper Marcus, C. and Francis, C. (1990), *People Places: Design guidelines for urban open space*, Van Nostrand Reinhold, New York.
- Corkery, L. (2001), ‘Centennial Park Restaurant Precinct Survey’, Unpublished report for the Centennial Park Moore Park Trust, August 2001.
- Cunningham, C. and Jones, M. (2002), “How kids use and think about their urban environment: a review of research into children and play,” paper presented to the “Kids in Local Space” seminar, Melbourne, 20 March 2002.
- Dattner, R. (1969), *Design for Play*, The MIT Press, Cambridge, Massachusetts.
- Frank, L., Engelke, P. and Schmid, T. (2003), *Health and Community Design*, The Island Press, Washington, D.C.
- Frost, J. (1992), *Play and Playspaces*, Delmar Publishers, Inc., Albany, New York.
- Health Canada Division of Childhood and Adolescence. (2002), *Natural and Built Environments*, cited in Srinivasan, et al. 2003. Available at http://www.hc-sc.gc.ca/dca-dea/publications/healthy_dev_partb_5_e.html accessed 17 January 2004.
- Jackson, R. (2003), ‘What Olmsted Knew’, address to the National Conference of the American Society of Landscape Architects, www.asla.org/Members/ppl/healthy/communities.html accessed 28 October 2003.
- Lefaivre, L. (2002), *Aldo van Eyck: The playgrounds and the city*, NAI Publishers, Rotterdam.
- Moore, R. 1986), *Childhood’s Domain: Play and place in child development*, MIG Communications, Berkeley, California.

Oldenburg, R. (1989), *The Great Good Place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community*, Marlowe & Company, New York.

Portney, K. (2003), *Taking Sustainable Cities Seriously: Economic development, the environment and quality of life in American cities*, The MIT Press, Cambridge, Massachusetts.

Srinivasan, S. *et al.* (2003), 'Creating healthy communities, healthy homes, healthy people: initiating a research agenda on the built environment and public health', *American Journal of Public Health* **93**, 1446-1450.

Tilbury, D. and Podger, D. (2003), Course Notes from the Action Research for Change Towards Sustainability (ACTS) Workshops, Macquarie University, November 2003.

Ward, C. (1977), *The Child in the City*, The Architectural Press, London.

Warner, S.B. (1992), in Muschamp, H., *The Once and Future Park*, Princeton University Press, New Haven, Connecticut.

World Commission on Environment and Development (WCED). (1987), *Our Common Future*, Oxford University Press, Oxford.

Linda Corkery, Associate Professor, Landscape Architecture Program, Faculty of the Built Environment, UNSW. Her research interests include people/place relationships, design education and education for sustainability. She is an experienced landscape architect and planner with over 20 years in private practice in Australia, the United States and Hong Kong. She has a particular interest in children's play and learning environments, is the author of *Playspace: Handbook for Planning Outdoor Play Environments* and edited *Plan It! Guidelines for Planning Early Childhood Outdoor Supervised Play Environments in NSW*.