# Child Friendly Cities and Land Use Planning: Implications for children's health

Catherine McAllister

## **Abstract**

The environment surrounding us sends strong messages about how to behave and what to perceive. Planners and decision-makers play a key role in constructing these messages, and therefore help determine how people view and interact with the world. As a result, the living environment and its associated messages can greatly influence the physical, social and mental health of all residents. Since children are just learning about the world, their living environment will profoundly influence almost all aspects of their lives. This puts a great deal of responsibility on the shoulders of planners, who need to balance a number of different issues in urban design to make places more child-friendly. Four major issues that are critical to the creation and maintenance of a child-friendly community are: safety, greenspace, access and integration. The benefits of child-friendly community design range from the promotion of healthier lifestyles, to improving the quality of social interactions to the long-term sustainability of natural spaces. The United Nations Children's Fund (UNICEF) program Child Friendly Cities promotes childfriendly community design and inclusive decision-making. Waterloo, Ontario, a mid-sized Canadian city, has many positive and community-oriented attributes, but could benefit greatly from incorporating child-friendly design procedures and participatory decision-making.

L'environnement dans lequel on vit influence nos comportements et nos perceptions, par les messages qu'il nous transmet. Les planificateurs et les décideurs jouent un rôle capital dans la construction de ces messages qui, par con-

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is a PhD student in the School of Planning at the University of Waterloo. She is using an interdisciplinary approach to examine the relationship between children and the natural environment in urban settings. séquent, déterminent la manière dont les gens perçoivent le monde et comment ils y interagissent. C'est pourquoi l'environnement de vie et les messages qui y sont associés peuvent influer grandement sur la santé physique, sociale et mentale de tous les citoyens. Puisque les enfants apprennent tout juste à connaître le monde, leur environnement de vie aura une incidence profonde sur la plupart des aspects de leur vie. Cela met une lourde responsabilité sur les épaules des planificateurs, qui doivent équilibrer bon nombre d'enjeux différents en matière de design d'environnement pour rendre les espaces de vie plus conviviaux pour les enfants. Les quatre en-

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jeux les plus essentielles à la création et au maintien de collectivités favorables aux enfants sont la sécurité, les espaces verts, l'accès et l'intégration. Les bienfaits de la conception de collectivités accueillantes pour les enfants vont de la promotion de modes de vie plus sains à l'amélioration des interactions sociales, en passant par la durabilité à long terme des espaces naturels. Le programme Villes adaptées aux enfants du Fonds des Nations Unies pour l'enfance (UNICEF) fait la promotion de l'aménagement de collectivités accueillantes pour les enfants et d'une prise de décision inclusive. La ville de Waterloo, en Ontario, une ville canadienne de taille moyenne, possède de nombreuses caractéristiques positives et axées sur la collectivité, mais elle pourrait grandement profiter de procédures d'intégration d'un design adapté aux enfants et de prise de décision participative.

#### **Key Words**

Children, healthy communities, Child Friendly City, integration, Waterloo, Ontario

### Introduction

According to the World Health Organization, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2007). All facets of this definition of health should be considered when planning living environments. Researchers and practitioners are increasingly recognizing this broader definition and are starting to understand that the way a community is designed and managed has a profound influence on each of them. Community design and management also has a strong influence on the economic, social, and environmental sustainability of the community as a whole. As examples of this changing understanding, consider the following: There has been a recent surge of interest in defining the relationship between human health and the built environment (e.g. Tucs and Dempster, 2007). The Healthy Communities movement has gained momentum over the past few decades, advancing healthy community ideals that include factors such as active participation, equal access to resources, diversity, and the provision of basic needs (OHCC, 2003). The Ontario Professional Planners Institute recently released a report on "Healthy Communities, Sustainable Communities" that acknowledges the links between planning, health and sustainability (OPPI, 2007). Finally, the Ontario Chief Medical Officer of Health's (CMOH) Report, Healthy Weights, Healthy Lives (Basrur, 2004), clearly outlines the connection between the living and built environments and physical health.

The latter report is of particular interest to this paper, because Basrur (2004) draws attention to concerns with respect to the health of children. "Between 15% and 25% of Ontario youth are overweight or obese" (Basrur, 2004: 25) and more than half of Canada's youth are not active enough for optimal growth and development. Children are spending more time indoors watching TV (Basrur, 2004) and less time interacting with the natural environment or exploring the community. Other research indicates that green outdoor areas are disappearing or are restricted and children are often segregated from society.

Many of these issues can be at least partially addressed with changes in

policy and design which can encourage walking and cycling, improve access to recreational spaces, and make children and their parents generally feel safer about being outside. Among other considerations, the CMOH report offers suggestions such as these for improving health through changes in community planning policies, community design, and priority setting (Basrur, 2004).

Children's environments directly affect the way they interact with the world. The environment, then, has a significant impact on every child's physical, mental and social health, yet until recently there has been little focus on creating child-friendly communities. Children are often neglected in land use planning in two ways. They are given little consideration when it comes to design – although they see and interact with the world differently than adults do (Matthews and Limb, 1999): There is a lack of planning *for* children. Second, they are not given an opportunity to participate in decision-making (Bartlett, 2005): There is a lack of planning *with* children. The combination can result in reduced levels of physical activity and a lack of interest in community engagement. Getting children involved in community planning and decision-making can help promote physical activity as well as improve children's mental and social health through community engagement and empowerment. Children are more likely to venture out into spaces where they feel connected. They also have valuable ideas about how to make spaces actually usable by children.

There are a number of people studying how to involve children in decision-making processes (For examples, see: Bridgman, 2004b; Burke, 2005; Lauwers and Vanderstede, 2005). United Nations initiatives such as *Child Friendly Cities* (UNICEF, 2007) and *Growing Up In Cities* (UNESCO, 2007) promote inclusive decision-making. Child Friendly Cities give children the right to express opinions, participate in the community, receive basic services, be protected from various forms of violence, walk safely, play, have greenspaces, live in an unpolluted environment and be treated equally (UNICEF, 2007). In addition, the *Child Friendly City* program provides a framework to guide the process. It includes suggestions such as increasing children's participation, conducting child impact assessments, and creating a children's rights coordinating mechanism (UNICEF: Innocenti Research Centre, 2004).

This paper discusses how planning in urban environments should consider children in two ways: planning *for* children, and planning *with* children. When planning *for* children, at least four main factors should be considered: safety, greenspace, access and integration. Covering each of these in turn, I demonstrate that the way planners deal with these factors has the potential to greatly influence children and, more specifically, their health. These four themes appear repeatedly in the literature and encompass the goals of the *Child Friendly City* listed above. I use the City of Waterloo as an example of a medium -sized Canadian city to illustrate how certain plans and policies could affect children with regard to each of these themes.

I then discuss the other aspect of planning – planning with children. Involving children in planning is an excellent way to improve integration. It is also a necessary precursor to effective planning for children. It is not a simple process, and takes dedication and a willingness to listen and act. In discussing this aspect, I briefly examine the history of this trend, discuss some "best

practices", and give examples of places taking positive steps towards inclusivity. Finally, I suggest possible steps that a city such as Waterloo can take to start the process of creating a Child Friendly City.

Since children comprise a significant portion of our current population, as well as our entire future population, their health and their relationships with the community should be of primary concern in the design and management of our communities.

# The City of Waterloo: A Case Study

The City of Waterloo is one of the fastest growing areas in Canada (Region of Waterloo, 2003). Waterloo prides itself on being an "Environment First" community - one at the forefront of the environmental movement. The City's website states that, "The dynamic approach we have taken to address concerns for the environment has won us the respect and praise of the industry, as well as the public's confidence" (City of Waterloo, 2009a). Waterloo has won a number of environmental awards, including a "Service to the Environment" award in 2008 and a "Community Sustainability Award" in 2006 (City of Waterloo, 2009b). In addition, Waterloo has recently been named the world's most Intelligent Community for 2007 (City of Waterloo, 2007b). Waterloo has many child-friendly attributes, as well as many programs and services directed at children. However, while many policies and plans aim to improve conditions for all citizens, less attention has been given specifically to children's needs. Primarily, there are no provisions for including children's voices in decision-making processes. Waterloo could become a Child Friendly City by involving children in decisions and by providing safe, accessible, integrated communities with plenty of greenspace. These changes would promote the physical, social and mental health of Waterloo's children. The City of Waterloo serves as a good case study, as it is a relatively wealthy area of Canada that boasts of its many forward-thinking initiatives. One might expect that it could easily take steps to become more child friendly, but it has not done so yet.

# Planning for children

When searching for information on how to create healthy communities that are also child-friendly, four main themes show up repeatedly. These themes – safety, greenspace, access and integration – encompass the *Child Friendly City* goals, and also address the rights of children that are laid out in the *Convention on the Rights of the Child* (UNHCHR, 1989), which will be discussed later.

#### Safety

One major requirement of the *Child Friendly City* (UNICEF, 2007) is a focus on safety. A safe community fosters feelings of security and, subsequently, improved social and mental health. In addition, people who feel secure are more willing to engage in outdoor activities, thus leading to improved physical health. With respect to children, safety is prevalent in the minds of most parents and also decision-makers. Concerns about traffic, crime and "stranger danger" result in a climate of fear for both parents and children, resulting in over-regulation of childhood activity (Blakely, 1994; Spencer and Woolley, 2000).

There are few places where parents feel safe letting their children play unsupervised (Veitch et al., 2006; Blakely, 1994). In addition, parents influence the level of fear in their children (Matthews and Limb, 1999), so children may not feel safe exploring on their own. The demographics and physical attributes of a neighbourhood affect parental assessments. According to one study, the factors that influence freedom for children include sex, age, the presence of courtyards, proximity of parks, age of the neighbourhood and the network of relationships between neighbours (Prezza et al., 2001). Parents of children living in areas of low socioeconomic status showed particular concern with their neighbourhood's safety (Veitch et al., 2006). One major goal in planning for safety is to reduce criminal activity. This can occur in many ways. For example, providing well-lit areas and improving visibility can help to reduce or at least re-direct criminal activity. Media hype over incidents of crime can cause excessive concern in parents (Blakely, 1994).

Communities should be designed to facilitate walking, thus promoting healthier lifestyles and reducing traffic congestion. Currently, many communities are designed for the convenience of vehicles, with limited concern for the safety of pedestrians. A review of the literature on physical activity and the physical environment concluded that these two factors were undeniably linked (Krahnstoever et al., 2006). In a number of studies, a community's level of walkability and access to parks was positively correlated with physical activity and inversely correlated with levels of obesity (Newberger and Butcher, 2005; Saelens et al., 2003; Frank et al., 2004). The link between obesity and neighbourhood design is also a major issue raised in the OPPI report (2007) and Basrur (2004), as noted above.

Sallis and Glanz stress that "priority should thus be placed on designing roads, sidewalks, and crosswalks that make it safe for children to walk and cycle" (Sallis and Glanz, 2006, p. 94). Specific guidelines to improve transportation safety and accessibility for children have been recommended in the Centre for Sustainable Transportation's report on *Child- and Youth-friendly land-use and transport planning guidelines* (Gilbert and O'Brien, 2005).

Unfortunately, people are travelling by car more frequently, particularly in suburban areas, which are often further from jobs, schools and other facilities. This trend results in an increase in traffic, reduced safety, and reduced physical activity. A report from the Region of Waterloo's public health department found that people living in suburban areas spend significantly more time in a car, and significantly less time walking than do their urban counterparts (Fisher, 2005). Waterloo is frequently adding new subdivisions on the outskirts of the city. However, the City of Waterloo's *Official Plan* encourages pedestrian activity and promotes the building of a series of linear parks for pedestrians and cyclists (City of Waterloo, 2004). The City Council of Waterloo also recently adopted a *Pedestrian Charter* which acknowledges the advantages of a pedestrian-friendly community and states their intention to improve walkability in Waterloo (City of Waterloo, 2008). Yet there is still no specific mention of children, for whom walkability considerations differ substantially from those of adults.

Planners should aim to create urban spaces where people feel positive about their neighbourhoods and parents feel secure enough to allow their children

to explore. Ultimately, safer neighbourhoods will foster more physical activity, and improved mental and social health. A safe community, however, comes at a cost. Concerns over safety have taken precedence over the other three factors I mention: greenspaces, access and integration. Greenspaces pose potential safety hazards; increased access means exposing children to a wider variety of dangers; and integrating children into decisions means giving up some control over their lifestyles. A balance among these is required.

### Greenspace

Urban greenspace offers many benefits. It contributes to the improved health of citizens, it helps preserve the natural environment, and it improves the long-term sustainability of cities. Urban nature can take any number of forms, from parks and greenbelts, to gardens or even features like green roofs (van den Berg et al., 2007).

Urban nature can be more important to children than untouched wilderness areas, as it is available in daily life within a familiar environment (Meyer, 2005; Wells, 2000; Jansson, 1984). Access to greenspace is also one of UNICEF's requirements for the *Child Friendly City (UNICEF, 2007)*. Research has shown that children tend to prefer to play in natural areas (Freeman, 1995). In addition, repeated exposure to nature helps children develop a sense of environmental responsibility and respectful interaction (Bott, et al., 2003), as well as a preference for greenspaces (Tesser and Martin, 1996). This could lead to changes in public opinion on land-use decisions (Balling and Falk, 1982) as well as increased use of greenspaces for recreation.

Physical activity in children has been positively correlated with the proximity of parks. For example, adolescent girls who lived near parks were more likely to engage in non-school physical activity (Cohen et al., 2006). Natural areas can be excellent playgrounds, offering opportunities for exploration and interaction that can never be substituted with built structures. In one study of a natural play space, the natural landscape's diverse features were found to encourage versatile play (Fjortoft and Sageie, 2000). Providing green areas for recreation can clearly have an influence on physical health through opportunities for activity.

Other strong evidence has indicated that natural areas have positive social and psychological effects on residents. Natural areas help children develop appropriate independent social skills and freedom of movement leads to increased socialization (Prezza et al., 2001). One study indicated that greenspaces help children strengthen interactions with peers (Meyer, 2005) and that they promote a healthy sense of community.

The positive effects of natural areas on mental health have been well documented. Kaplan (e.g. 1995) has written widely on this subject. Wells (2000) found that children who were relocated to greener areas showed improved levels of cognitive functioning and attention compared to children who moved to areas with fewer greenspaces. Research has also demonstrated how access to nature can counteract the effects of Attention Deficit Disorder (ADD), as well as improve self-discipline in troubled youth (Taylor et al., 2001). Unfortunately, children appear to be losing this connection with nature. Richard Louv calls this "Nature Deficit Disorder" in his book that explores how children are being disconnected

from nature and how to address the problem (Louv, 2005).

An examination of planning and policy documents at provincial and local levels reveals that greenspace preservation is a priority in Ontario and, more specifically, Waterloo. The Ontario Planning Act promotes the protection of the natural environment. The first stated purpose of the act is to, "...promote sustainable economic development in a healthy natural environment..." (Planning Act, 1990). The first listed responsibility of ministries and councils under the Act is to have regard to "the protection of ecological systems, including natural areas, features and functions" (Planning Act, 1990). The Region of Waterloo's Regional Growth Management Strategy's first goal is enhancing the natural environment (2003). The Regional Official Policies Plan (2006) lists environmental integrity as the first element in developing a sustainable regional community.

The City of Waterloo operates under an *Environment First* policy and there are rules and guidelines concerning greenspaces included in the Official Municipal Plan, the Environmental Lands Acquisition Strategy and the Environmental Strategic Plan (City of Waterloo, 2004, 1997, 2002). The goal of the Official Plan is to "enhance the natural and human environment and improve the quality of life for current and future residents" (City of Waterloo, 2004). The plan contains minimum guidelines for parkland and open space. Five per cent of land or cashin-lieu must be provided in new developments for parklands. It also contains specific guidelines for the number, size, location, accessibility and visibility of parks (City of Waterloo, 2004).

While these guidelines were not specifically designed with children in mind, they have profound impacts on local children. On the other hand, the Official Plan of the City of Waterloo includes a clause that requires *where possible* that parks be highly visible, accessible and located near schools (City of Waterloo, 2004). This is, however, the only reference to children or youth in the Official Plan. In addition, terms such as "where possible" may serve to limit the actual implementation of such clauses.

It appears that greenspace planning receives a fair amount of attention from the City of Waterloo. However, the question remains: are these areas appropriate for children? Recreational use, particularly by children, can be damaging to greenspaces (Pickett et al., 2001) so children are constantly reminded to stay on the paths, not to pick wildflowers, not to feed the animals and not to climb trees. Even some Ontario trail organizations are calling for minimum age requirements in the use of their trails (Ministry of Health Promotion, 2005). Children are likely receiving the message that greenspaces are not for exploration or play and that they are not particularly welcome. However, since greenspaces have the potential to significantly improve children's physical, mental and social health, we should be sending the opposite message.

#### Access

Another major challenge is providing children with access to a variety of environments. Fears about liability and safety limit the areas that children are permitted to use. However, access to a variety of services and environments is considered a requirement for a *Child Friendly City* (UNICEF, 2007), and will have substantial implications for children's health. Children with abundant access to

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parks and play spaces are more likely to engage in physical activity and to have opportunities for building social connections, self esteem and confidence.

Children need room to explore during their play activities (Malone and Tranter, 2003). As well as serving an important role in physical activity, play helps children develop their capacity to exercise control, demonstrate confidence and improve self-esteem (Chawla and Heft, 2002). Planners need to create opportunities for children to be physically active and play in a safe, but varied environment (Thompson et al., 2005). Standard playgrounds, with uninspired, fixed equipment rarely take children's need for variety or exploration into account (Matthews and Limb, 1999), but are still the norm. Children bore quickly of standard play structures. One good example of a creative style of playground is the "adventure playground" that allows children to construct their own surroundings with available building materials (Noschis, 1992). Adventure playgrounds, found in many European countries, but not in North America, show great potential for providing development opportunities to children (Staempfli, 2008). They offer less in the way of safety, however, and require more supervision.

Ware and Cavanagh (1992) provide various ways to make public areas more accessible to children as well as to those with special needs. These include the dimensions of public facilities (such as width of entrances and the height of handrails), safety measures (such as non-slip surfaces), and clearly marked signs using images rather than just words. These measures improve accessibility for a broad range of people, including children.

Spencer et al. (2000) have noted a consistent pattern of decline in children's access to public spaces. Parklands are based on minimum values and, except for token areas such as playgrounds, public places are rarely made to the scale of children. Likely because of safety concerns, risk of damage and liability, people are less likely to permit children (or others) to roam freely on their land (Ministry of Health Promotion, 2005). The proximity of woodlands is very important in order to promote their regular use (Thompson et al., 2005) and access to recreational facilities has been correlated with increased levels of physical activity (Mota et al., 2005). In addition, access to services, parks and shopping may also be limited by factors such as socioeconomic status (Pickett et al., 2001). There are correlations between social stratification and access to greenspace (Grove et al., 2006).

In the Official Plan for the City of Waterloo, minimum standards for parkland areas in new developments are calculated according to the size and density of the population. However, since developers are permitted to pay cash in lieu of meeting these standards (City of Waterloo, 2004), this could work against access in that the money may be used to buy or maintain land further away from communities, thus reducing accessibility. The City of Waterloo does appear to have some provisions for this in the Official Plan. It states that "where possible, housing geared to low-income and single parent families should be located within walking distance of schools, public transit, local commercial outlets, parks and recreational facilities" (City of Waterloo, 2004: 86). This type of clause in planning documents works to counteract the effects of environmental discrimination.

While providing access to facilities gives children the opportunity to

participate more actively in their community, there are still problems with this approach. Facilities for children are usually designed without direct consultation, resulting in a severe gap between what is provided and what is needed. A logical solution would integrate children and youth into decision-making processes.

## Integration

In many cases, children and youth know what they want and need better than anyone. At the very least, they often have valuable opinions or ideas to contribute. Integrating children into decision-making processes takes commitment, patience and creativity to find ways to help them communicate with adults. This is a worthwhile goal, as integrating children fully into their communities helps improve social and mental health by promoting feelings of empowerment and confidence and offering social interaction opportunities. It also helps improve physical health by giving children the opportunity to help create spaces that are useful to them. Unfortunately, children are often treated as problems, rather than valuable citizens with valid opinions. It also takes a significant amount of work to reach the children in a community. Outreach programs and collaborations with schools would help reach children who are not likely to come forward to join programs. The integration of children and their opinions into the community is one of the fundamental requirements of a *Child Friendly City* (UNICEF, 2007).

Older children and adolescents tend to congregate in areas such as parking lots, malls, plazas and marginal spaces. This creates clashes between youth and adults (Matthews and Limb, 1999; Spencer and Woolley, 2000). In recent news, a device called the "Mosquito" has arrived in Canada. This is a device specifically designed to deter youth from particular areas using a high-pitched irritating noise that only they can hear (Perreaux, 2008). The popularity of this device is indicative of a much deeper problem and conflicts severely with the idea of a healthy, inclusive community. Children and adolescents are forced to find ways of fitting into the community, rather than being welcomed and having a safe variety of environments to play in, socialize in and explore (Berg and Medrich, 1980).

However, defiant or illegal adolescent behaviour reinforces negative stereotypes. One way to get children and adolescents to take responsibility for their actions and to take ownership over their communities is to get them involved in design and decision-making. This could also increase the actual use of (often underused) spaces like parks and marginalized areas. The better integration of children into society would also include improving the visibility of play spaces to the community – as recommended by the City of Waterloo (2004) – and creating public facilities that can operate at the scale of children.

The City of Waterloo tries to integrate public opinion and encourages citizen involvement in priority-setting and decision-making. For example, *What's in Your Waterloo?* was a community visioning project conducted in 2007, which included a community forum and a survey, aiming to "refresh the community vision and set strategic priorities for the short and long-term in Waterloo" (City of Waterloo, 2007c). In addition, the Mayor of Waterloo has initiated the Mayor's Student Advisory Council to improve communication between the city and the students from Waterloo's college and two universities (Mayor's Student Advisory Council,

2008). However, these efforts are all limited to adults.

The City of Waterloo does have a Youth Recreation Council advertised as "a group of youth making a difference in our city by organizing special events and programs for other youth, children and older adults" (City of Waterloo, 2007a). However, unlike the city-run youth councils in other communities – such as Edmonton, where the youth council communicates directly with City Council (City of Edmonton Youth Council, 2008) – Waterloo's youth council has little to do with planning or decision-making. Its activities appear to focus on organizing fundraisers and social events. While participation in this council would definitely be beneficial for a young person, it would not necessarily give them the opportunity to speak out about the community.

A community that includes children will foster mental and social health by allowing children to be contributing members of society, and to feel their opinions are important. An integrated society also allows children to speak up about their spaces, and help planners identify ways to make spaces more useful for children, thus improving opportunities for physical activity. Planning *with* children would improve many of the problems outlined above.

## Planning with children

When people have control over their own lives, they demonstrate improved mental and physical health (Myers and Spencer, 2001). In 1989, a *Convention on the Rights of the Child* was assembled by the United Nations, laying out principles including non-discrimination, putting the best interests of children first, and respecting children's views. Notably, the document acknowledges that children have a right to a voice in decisions that affect their lives (UNHCHR, 1989). Despite the widespread ratification of the *Convention*, the inclusion of children in political decisions in most places is tokenistic or decorative at best and manipulative or deceptive at worst (Chawla et al., 2005; Driskell, 2002). Many programs initiated to fulfill the requirements of the *Convention* prove to be merely "showcase" activities and lack long-term monitoring or sustainability (Bartlett, 2005).

Best practices for involving youth in communities have been well examined (Bridgman, 2004b; Chawla and Heft, 2002; Matthews and Limb, 1999; Driskell et al., 2001). These practices emphasize participation, empowerment, a holistic approach, accessibility, safety, sustainability and innovative approaches to development (Bridgman, 2004b). Driskell's (2002) manual on *Creating better cities with children and youth* offers practical advice to involve children. Roger Hart, one of the leading researchers on this topic, put together a "ladder of children's participation" identifying potential levels of participation. The rungs range from "manipulation" to "child initiated" projects. For many issues that affect children, the higher rungs are often more desirable (Hart, 1997). One recurring idea in the children's participation literature is the need for creative approaches for accessing children's opinions.

The United Nations Children's Fund program, *Child Friendly Cities* (UNICEF, 2007), helps to build communities that are designed and run with the best interests of children in mind, by improving quality of life and by including

children's perspectives in decision-making. Cities all over the world have used Child Friendly principles. Many European countries are well known for their Child Friendly communities, programs and policies. The European Child Friendly Cities network, which promotes the creation of Child and Youth friendly policies, supports child-friendly projects and provides resources and information (European Child Friendly Cities Network, No Date). In Switzerland, they have put together a certification process to create an incentive for cities to be involved in the Child Friendly Cities movement (Schulze and Moneti, 2007).

Meanwhile, Edmonton is one example of a Canadian community making strong efforts to include children, and has evaluated the city from a child's perspective using a *Child Impact Assessment Tool* (Yates, 2005). This was initiated to achieve the goals of the *Child Friendly City* and resulted in a long range strategy (City of Edmonton Community Services, 2008) that involves: advocating for children; aligning programs, services and facilities to children's needs; eliminating accessibility barriers; supporting families; and enabling children to become contributing citizens (Yates, 2005). Other Canadian communities have also made concerted efforts to engage children. Bridgman (2004a) provides many good examples of Canadian projects that meet these goals. For example, the City of Toronto has a *Youth Cabinet* which is considered the "official voice for youth at city hall" (Toronto Recreation, 2005).

Including children in decision-making not only improves their feelings of self-worth and their social and mental health, it also has the potential to help planners design areas that are actually useful and desirable for children. Areas designed with children are more likely to be popular and used by children. Given the vast array of examples to draw from, it would be relatively easy to implement many Child Friendly principles in the City of Waterloo. Waterloo's children lack the opportunities for participation evident in several other communities across Canada.

# What's next? First Steps

A city that is serious about becoming Child Friendly can draw from a number of sources, such as other communities that have started the process. As a first step, the city would need to build a child impact assessment tool such as the one used in Edmonton (Yates, 2005). Among other things, this should include a detailed examination of policy documents, and how they affect children. This could be followed by the creation of a strategy for creating a more child friendly community and a commitment to follow through. This strategy should involve considerations such as the creation of a children's rights unit, regular reporting on Waterloo's children, and getting children involved through youth councils or roundtables. Ultimately, a Child Friendly Waterloo would be planning both for and with children. The City of Waterloo is taking many positive steps in terms of community involvement and creating a healthier and more sustainable city. A Child Friendly Waterloo program would fit nicely with this trend.

Hopefully, UNICEF Canada will eventually establish a Child Friendly Cities assessment and certification program that would encourage Canadian communities to take the first steps in this type of initiative.

#### Conclusion

Children have an intense relationship with their environments. This means that a community's design and land-use decisions have a significant impact on their physical, social and mental health. The four main issues discussed: safety, greenspace, access and integration, should be at the top of every planner's list in order to create healthy, child friendly cities.

The health benefits of a Child Friendly City are numerous. Obvious physical health benefits are derived from having safe places to play and walkable neighbourhoods. Less obvious health benefits include reduced stress and improved cognitive functioning. Integrating children into society and giving them access to amenities improves social and mental health through empowerment and increasing self-confidence. A safe, green, accessible, inclusive society is the healthiest option for children.

There are limitations associated with UNICEF's *Child Friendly Cities* program. It cannot account for the variability of community needs and priorities. What it does offer is a list of ideals worth striving for – and a framework to help achieve them. The creation of a Child Friendly City also signifies a partial shift of power that many are not willing to relinquish to children. We all need to recognize that children have valuable ideas to bring to our communities. This recognition takes commitment and a willingness to listen and act. It also means actively seeking out the younger members of society and giving them the opportunity to be heard. Mental health is closely tied to feelings of self-worth.

Participation in an international program such as *Child Friendly Cities* would be a logical next step for a community such as Waterloo, which has made such a strong commitment to the environment and education. The creation of a Child Friendly City would demonstrate a significant commitment to health and would ensure that the youngest citizens are not left behind in the process. Examples set by other communities are proof that Child Friendly Cities can become a reality, increasing the chances for children to be physically active, to feel good about themselves and about their communities, and to be active and healthy participants in society.

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### References

Balling, J.D., and J.H. Falk. 1982. Development of visual preference for natural environments. *Environment and Behavior* 14 (1):5-28.

Bartlett, S. 2005. Integrating children's rights into municipal action: A review of progress and lessons learned. *Children, Youth and Environments* 15 (2):18-40.

Basrur, S. 2004. Chief Medical Officer of Health Report: Healthy Weights, Healthy

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- Lives. Ontario Ministry of Health and Long-term Care. Toronto, Ontario.
- Berg, M., and E.A. Medrich. 1980. Children in four neighborhoods: The physical environment and its effect on play and play patterns. *Environment and Behavior* 12 (3):320-348.
- Blakely, K.S. 1994. Parents' conceptions of social dangers to children in the urban environment. *Children's Environments* 11 (1):20-35.
- Bott, S., J.G. Cantrill, and O. E. Myers Jr. 2003. Place and the promise of conservation psychology. *Human Ecology Review* 10 (2):100-112.
- Bridgman, R. 2004a. Child-friendly cities: Canadian perspectives. *Children, Youth and Environments* 14 (2):178-200.
- 2004b. Criteria for best practices in building child-friendly cities: Involving young people in urban planning and design. Canadian Journal of Urban Research 13 (2):337-346.
- Burke, C. 2005. "Play in Focus": Children researching their own spaces and places for play. *Children, Youth and Environments* 15 (1):27-53.
- Chawla, L., N. Blanchet-Cohen, N. Cosco, D. Driskell, J. Kruger, K. Malone, R. Moore, and B. Percy-Smith. 2005. Don't just listen Do something! Lessons learned about governance from the Growing Up in Cities Project. *Children, Youth and Environments* 15 (2):53-88.
- Chawla, L., and H. Heft. 2002. Children's competence and the ecology of communities: A functional approach to the evaluation of participation. *Journal of Environmental Psychology* 22:201-216.
- City of Edmonton Community Services. 2008. *Child Friendly Edmonton Strategy*. City of Edmonton. http://www.edmonton.ca/CityGov/CommServices/Child-Friendly/ChildFriendlyStrategy.pdf [accessed on: May 13, 2008].
- City of Edmonton Youth Council. 2008. *The City of Edmonton Youth Council: About Us.* The City of Edmonton. http://www.ceyc.ca/ [accessed on: November 27, 2008].
- City of Waterloo. 1997. Environmental lands acquisition and maintenance strategy discussion paper. City of Waterloo. Waterloo, Ontario.
- ——. 2004. Official plan of the City of Waterloo. City of Waterloo. Waterloo, Ontario.
- 2007a. City of Waterloo Youth Council. City of Waterloo, Ontario. http://www.city.waterloo.on.ca/DesktopDefault.aspx?tabid=784 [accessed on: May 13, 2007].
- ——. 2007b. *Intelligent Waterloo*. http://www.intelligentwaterloo.com/en/index. shtml [accessed on: May 13, 2008].
- 2007c. What's in your Waterloo? http://www.city.waterloo.on.ca/Desk-topDefault1.aspx?tabid=1709&mid=4009&def=News%20Article%20View&It emId=686 [accessed on: November 27, 2008].
- ——. 2008. City of Waterloo Pedestrian Charter, edited by City of Waterloo City Council. Waterloo, Ontario.
- ——. 2009a. *The City of Waterloo: Environment*. http://www.city.waterloo.on.ca/DesktopDefault.aspx?tabid=2066 [accessed on: January 16, 2009].

— 2009b. The City of Waterloo: Environmental Awards. http://www.city. waterloo.on.ca/DesktopDefault.aspx?tabid=2075 [accessed on: January 16, 2009].

- Cohen, D.A., J.S. Ashwood, M.M. Scott, A. Overton, K.R. Evenson, L.K. Staten, D. Porter, T.L. McKenzie, and D. Catellier. 2006. Public parks and physical activity among adolescent girls. *Pediatrics* 118 (5):1381-1389.
- Driskell, D. 2002. Creating Better Cities with Children and Youth: A Manual for Participation. London and Sterling, VA: Earthscan Publications Ltd.
- Driskell, D., K. Bannerjee, and L. Chawla. 2001. Rhetoric, reality and resilience: Overcoming obstacles to young people's participation in development. *Environment and Urbanization* 13 (1):77-89.
- European Child Friendly Cities Network. No Date. European Child Friendly Cities Network. http://www.childfriendlycities.org/pdf/eurocfc\_network.pdf [accessed on: November 27, 2008].
- Fisher, P. 2005. *Urban form, physical activity and health: Interim report*. Region of Waterloo Public Health: Health Determinants, Planning & Evaluation Division. Region of Waterloo.
- Fjortoft, I., and J. Sageie. 2000. The natural environment as a playground for children: Landscape description and analyses of a natural playscape. *Landscape and Urban Planning* 48 (1):83-97.
- Frank, L.D., M.A. Andresen, and T.L. Schmid. 2004. Obesity relationships with community design, physical activity, and time spent in cars. *American Journal of Preventative Medicine* 27 (2):87-96.
- Freeman, C. 1995. Planning and play: Creating greener environments. *Children's Environments* 12 (3):164-176.
- Gilbert, R., and C. O'Brien. 2005. *Child- and youth-friendly land-use and transport planning guidelines*. The Centre for Sustainable Transportation. Ontario.
- Grove, J.M, A.R. Troy, J.P.M. O'Neil-Dunne, W.R. Burch Jr., M.L. Cadenasso, and S.T.A. Pickett. 2006. Characterization of households and its implications for the vegetation of urban ecosystems. *Ecosystems* 9:578-597.
- Hart, R. 1997. Children's Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care. New York: UNICEF.
- Jansson, B. 1984. *Children's Play, and Nature in an Urban Environment, European University Studies*. New York: Peter Lang.
- Kaplan, S. 1995. The urban forest as a source of psychological well-being. In *Urban Forest Landscapes: Integrating Multidisciplinary Perspectives*, edited by G. A. Bradley. Seattle: University of Washington Press.
- Krahnstoever Davison, K., and C.T. Lawson. 2006. Do attributes in the physical environment influence children's physical activity? A review of the literature. *International Journal of Behavioral Nutrition and Physical Activity* 3 (19).
- Lauwers, H., and W. Vanderstede. 2005. Spatial planning and opportunities for children's participation: A local governance network analysis. *Children, Youth and Environments* 15 (2):278-289.
- Louv, R. 2005. Last Child in the Woods: Saving our Children from Nature-Deficit Disorder. New York, NY: Algonquin Books of Chapel Hill.

Malone, K., and P.J. Tranter. 2003. School grounds as sites for learning: Making the most of environmental opportunities. *Environmental Education Research* 9 (3):283-303.

- Matthews, H., and M. Limb. 1999. Defining an agenda for the geography of children: Review and prospect. *Progress in Human Geography* 23 (1):61-90.
- Mayor's Student Advisory Council. 2008. *Waterloo Mayor's Student Advisory Council: Welcome to the Waterloo MSAC Site*. http://www.waterloomsac.com [accessed on: November 27, 2008].
- Meyer, R.L. 2005. The effect of green space on urban children's sense of community. Paper read at Minnesota Association for Environmental Education Twelfth Annual Conference Proceedings, at Minnesota.
- Ministry of Health Promotion. 2005. *Ontario Trails Strategy*. Ministry of Health Promotion. Toronto, Ontario.
- Mota, J., M. Almeida, P. Santos, and J.C. Ribeiro. 2005. Perceived neighbor-hood environments and physical activity in adolescents. *Preventive Medicine* 41:834-836.
- Myers, D.G., and S.J. Spencer. 2001. *Social Psychology: Canadian Edition*. Toronto: McGraw-Hill Ryerson.
- Newberger, R., and K.F. Butcher. 2005. Childhood obesity: An issue for public health advocates, researchers, and community development practitioners. *Profitwise News and Views* October, 2005:12-16.
- Noschis, K. 1992. Child development theory and planning for neighborhood play. *Children's Environments* 9 (2):1-11.
- Office of the United Nations High Commissioner for Human Rights. 1989. *Convention on the Rights of the Child*. http://www.unhchr.ch/html/menu3/b/k2crc. htm [accessed on: June 14, 2007].
- Ontario Healthy Communities Coalition. 2003. *About us: What makes a community healthy?* http://www.healthycommunities.on.ca/about\_us/healthy\_community.htm [accessed on: November 26, 2008].
- Ontario Professional Planners Institute. 2007. *Healthy Communities Sustainable Communities: The 21st Century Planning Challenge*. Ontario Professional Planners Institute Toronto, Ontario.
- Perreaux, L. 2008. Mosquito youth repellent device hits Canada after success in Britain. *The Record*, Kitchener-Waterloo. April 23.
- Pickett, S.T.A., M.L. Cadenasso, J.M Grove, C.H. Nilon, R.V. Pouyat, W.C. Zipperer, and R. Costanza. 2001. Urban ecological systems: Linking terrestrial ecological, physical and socioeconomic components of metropolitan areas. *Annual Review of Ecology and Systematics* 32:127-157.
- Government of Ontario. 1990. Planning Act. Chapter P.13.
- Prezza, M., S. Pilloni, C. Morabito, C. Sersante, F.R. Alparone, and M.V. Giuliani. 2001. The influence of psychosocial and environmental factors on children's independent mobility and relationship to peer frequentation. *Journal of Community and Applied Social Psychology* 11:435-450.
- Region of Waterloo. 2003. *Planning our Future: Regional Growth Management Strategy*. Region of Waterloo, Ontario.
- ——. 2006. Planning for a Sustainable Community: Regional Official Poli-

cies Plan: September 2006 Consolidation. Waterloo, Ontario: Region of Waterloo.

- Saelens, B.E., J.F. Sallis, J.B. Black, and D. Chen. 2003. Neighborhood-based differences in physical activity: An environment scale evaluation. *American Journal of Public Health* 93 (9):1552-1558.
- Sallis, J.F., and K. Glanz. 2006. The role of built environments in physical activity, eating, and obesity in childhood. *The Future of Children* 16 (1):89-108.
- Schulze, S., and F. Moneti. 2007. The Child Friendly Cities Initiative. *Proceedings of the Institution of Civil Engineers* 160 (ME2):77-81.
- Spencer, C., and H. Woolley. 2000. Children and the city: A summary of recent environmental psychology research. *Child: Care, Health and Development* 26 (3):181-198.
- Staempfli, M.B. 2008. Reintroducting adventure into children's outdoor play environments [Electronic Version]. *Environment and Behavior*.
- Taylor, A.F., F.E. Kuo, and W.C. Sullivan. 2001. Coping with ADD: The surprising connection to green play settings. *Environment and Behavior* 33 (1):54-77.
- Tesser, A., and L. Martin. 1996. The psychology of evaluation. In *Social Psychology: Handbook of Basic Principles*, edited by E. Higgins and A. Kruglanski. New York, NY: Guilford Press.
- Thompson, A.M., L.A. Rehman, and M.L. Humbert. 2005. Factors influencing the physically active leisure of children and youth: A qualitative study. *Leisure Sciences* 27:421-438.
- Thompson, C.W., P. Aspinall, S. Bell, and C. Findlay. 2005. "It gets you away from everyday life:" Local woodlands and community use What makes a difference? *Landscape Research* 30 (1):109-146.
- Toronto Recreation. 2005. *Community Database: Toronto Youth Cabinet*. Servicad. http://www.torontorecreation.com/categories/community-template-5.php?top\_cat=4&id=25 [accessed on: November 27, 2008].
- Tucs, E., and B. Dempster. 2007. Linking Health and the Built Environment: An annotated bibliography of Canadian and other related research. Ontario Healthy Communities Coalition.
- UNESCO. 2007. *Growing up in Cities*. http://www.unesco.org/most/guic/guica-boutframes.htm [accessed on: July 4, 2007].
- UNICEF. 2007. *Child Friendly Cities*. http://www.childfriendlycities.org/ [accessed on: January 29, 2007].
- UNICEF: Innocenti Research Centre. 2004. *Building Child Friendly Cities: A framework for action*. UNICEF Florence, Italy.
- van den Berg, A.E., T. Hartig, and H. Staats. 2007. Preference for nature in urbanized societies: Stress, restoration, and the pursuit of sustainability. *Journal of Social Issues* 63 (1):79-96.
- Veitch, J., S. Bagley, K. Ball, and J. Salmon. 2006. Where do children usually play? A qualitative study of parents' perceptions of influences on children's active free-play. *Health & Place* 12:383-393.
- Ware, V., and S. Cavanagh. 1992. Planning for children in public places. *Children's Environments* 9 (2):76-96.

Wells, N.M. 2000. At home with nature: Effects of "greenness" on children's cognitive functioning. *Environment and Behavior* 32 (6):775-795.

- World Health Organization. 2007. Constitution of the World Health Organization: Basic Documents. 46th ed. Geneva, Switzerland.
- Yates, B. 2005. Building a child impact assessment tool for the City of Edmonton. *Children, Youth and Environments* 15 (2):371-377.