

“I will be not a nerd”: Children’s Development, the Built Environment and School Travel

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Abstract: Children’s development is influenced by the layout of the urban landscape. Yet current design patterns of poor street layouts, inaccessible facilities, and vehicular congestion depict an inhospitable landscape for children. How can Australian cities ensure that the built environment does not act as a deterrent for autonomous travel among children? Two schools situated in Western Sydney suburban tract developments and two schools located along grid street formations (inner West and inner city) were compared and contrasted for urban design mechanisms and incidences of walking patterns among school children. Structured around the understanding that children are affected by and can affect their local surroundings, this research used surveys, drawings, and focus group discussions to integrate children’s perspectives into models of pedestrian behaviour. The results indicate that, to a child, the built environment along a school journey incorporates more than access and safety issues. Physical attributes which allow children to feel welcomed and engage their senses provide children with motivation to walk to and from school. By elucidating children’s interpretation of their school journey, practitioners, academics, and others can work towards designing sensory environments that embed healthy developmental competencies among children.

Introduction

An important barometer of the state of Australian cities is the freedom and well-being of children. Independent mobility among children is defined as the freedom for them to explore their neighbourhoods, towns, and cities without adult supervision (Hillman et al., 1990). Independent mobility embeds physical, mental, and social competencies. While children’s independent mobility encompasses a spectrum of activity, one of the indicators used to measure children’s freedom of movement is the unescorted child’s school journey (Rissotto & Giuliani, 2006). The journey to and from school on foot has been one of the main ways in which children gain first hand experience of their neighbourhood.

Fewer children, however, are walking to school than in the past as parents allow children autonomy only at an increasingly older age (Hart, 1979; Gaster, 1991). International data reflect the increasing global rates at which children living in highly industrialized countries are being driven to school (van Vliet, 1983; Hillman, 1993; O’Brien et al., 2000). In Australia, more children are being driven to school than travel on their own two feet. Table 1 characterizes metropolitan New South Wales travel patterns where car use has incrementally increased as walking has decreased as the main mode of transport to and from school. Although walking is the second prevalent mode of school transport, children’s autonomous movement to school has been restricted.

Table 1. Children’s school travel patterns in metropolitan New South Wales

YEAR	MOTORING	WALKING
1991	68%	24.4%
1999	73.7%	19.4%
2000	73.7%	19.8%
2001	75.3%	18.3%
2002	75.3%	18.3%
2003	75.3%	18.5%

Source: Transport Data Centre, 2005

As vehicular travel replaces walking as the main mode of school transport among children, there are repercussions occurring at both the individual level of the child and the societal level of the neighbourhood. At the individual level, children may develop automobile dependence, safety concerns, and health-related problems (Nochis, 1992; Frank et al., 2003; Thomsen, 2004; Wells, 2005; Sallis & Glanz, 2006). At the neighbourhood level, places which accommodated and welcomed children may become spaces solely circumscribed for adults and automobiles (Collins & Kearns, 2001; Tranter & Pawson, 2001). In response to these potential repercussions, the academic fields of geography, planning, urban design, transportation, and health have catalysed interdisciplinary interests toward increasing children’s opportunities to walk. These empirical investigations seek to

unearth the correlations between attributes of the built environment and children's pedestrian patterns to and from school. How can Australian cities ensure that the built environment does not act as a deterrent for autonomous travel among children?

This paper contributes to the empirical research by investigating the potential of the built environment to cater to children's developmental needs. A brief discussion of children's developmental patterns is featured and followed by a dialogue regarding the dynamic relationship between children's development and the layout of the urban landscape. This paper then highlights the work conducted in four Sydney metropolitan governmental schools to reveal the urban design traits which facilitate exploration along children's school trips on foot. Examining the physical traits present in the school neighbourhood may assist in alleviating the decline of children's experiences of independent mobility.

Middle Childhood Development

The time between six through eleven years of age has been considered "a critical period in the development of self" (Sobel, 2002, p. 159). Known as "middle childhood," it is a time when a child begins to navigate without an adult, develops a sense of local geography (i.e. becomes familiar with the neighbourhood), and partakes in situations requiring decisions (Cobb, 1977; Matthews, 1992; Kegerreis, 1993). Table 2 outlines the range of motor, cognitive, and social parameters that are considered important milestones during this stage. It is during this period that a child enhances balance, recognises landmarks, and develops a sense of competency (Lynch, 1977; Altman & Wohlwill, 1978; Spencer et al., 1989). Independent mobility usually occurs around the stage of middle childhood.

Table 2. Milestones for middle childhood

STAGE	MOTOR SKILLS	COGNITIVE SKILLS	SOCIAL/EMOTIONAL SKILLS
Middle Childhood (6-11 years)	Flexibility Balance Improved reaction time Left and right hand coordination	Task oriented Concrete reasoning Gradual mastery of logical concepts	Sense of competence at useful skills and tasks Self conscious emotions integrate with personal responsibility Expanding social circles

Source: Berk, 1998

Although this list is far from comprehensive, one point is worth noting. There are numerous developmental traits and many of these require a supportive social and physical environment. This implies that children's development is affected by the layout and affordances of the urban landscape (Kytta, 2004). Affordances refer to the "functionally meaningful units" of an environment that allows direct interaction and manipulation, in this case, by a child (Heft, 1988). For example, a tree affords climbing its branches, picking its leaves, and playing hide and seek. These activities, in turn, nourish a child's motor, mental, and social skills. It is thus important to realise the potential of environments to facilitate childhood development; especially as it relates to independent mobility (Ladd, 1970; Berg, 1980; Moore, 1986).

Through autonomous movement, a child uncovers the play opportunities which the physical environment provides. Commuting to school may be considered another form of explorative and self-testing play (de Monchaux, 1981). Children hop, crawl, or run as they kick soda cans, mimic bird calls, or tease the crossing guard on the way to school. As such, independent journeys to school may enhance developmental, social and emotional capabilities among children in the way that independent play does. During the walks to and from school, how can the built environment respond to children's developmental needs of play and exploration?

The Built Environment and Pedestrian Patterns

Neighbourhood design patterns of poor street layouts, inaccessible facilities, and vehicular congestion provide an inhospitable landscape for children. These design patterns diminish opportunities for children to freely navigate their neighbourhood on foot. "By working only from adult perspectives and imperatives- fast roads; big motor-oriented shopping centres; widely separated large sporting field complexes, again motor oriented; places of employment; - we create the barriers which imprison children in rather homogenous environments without complex play spaces for them, and which require a parent with a motor car to cross" (Cunningham et al., 1994, p. 84). While Cunningham and colleagues were commenting on the state of Australian neighbourhoods in the 1990s, their sentiment still aptly describe Australian communities today. The physical design of many neighbourhoods

negates the opportunity for children to independently, safely, and comfortably access their neighbourhood schools on foot.

Nevertheless, the significance of the urban form for pedestrian behaviour has long been recognized. From the conceptualization of Perry's (1939) Neighbourhood Unit to the contemporary components of Katz's (1991) New Urbanism, planners have striven to design neighbourhoods that afford and, indeed, promote the perception of ideal walking conditions. Yet how influential are the urban design mechanisms employed in promoting opportunities for pedestrianism? While there is much speculation about the correlation between neighbourhood form and walking patterns, there is little empirical information regarding children's pedestrian patterns. What is known has been inferred from research on adults' walking patterns and the built form. The distance between places, the mixes of land uses, and the connectivity of streets have been correlated with utilitarian and recreational walking trips among adults (Cervero & Radisch, 1996; Kitamura et al., 1997; Crane, 2000; Bagley & Mokhtarian, 2002). However, such research tends to overlook children's developmental needs for independent mobility.

The physical attributes acknowledged to increase walking opportunities for adults may not hold true for children. As introduced earlier, children's walking journeys may be exploratory: engaging both utilitarian and recreational purposes. Children experience school routes; unconsciously it seems, for the sensory experiences and activities the environment affords and not simply as a mode of utilitarian transport. It is therefore essential to provide an environment in which children are free to engage in a range of activities according to their own emergent needs.

Current research aimed at increasing the rates of children's walking habits are undertaken from adult constructs that under-utilise or ignore variables related to children's specific interests. Emerging from the urban planning, transportation, and health fields, studies have been initiated through the adult lenses of safety and accessibility. Indicators such as traffic flows, pedestrian injuries, and income levels have been used to describe children's pedestrian experience (Boarnet et al., 2005; McMillan, 2005; Merom, 2006). However, how realistically do these indicators portray children's use of their local environments? Absent from this discussion is children's experience of their walking journeys. There is an incomplete examination of what children perceive to be walkable. Safety and accessibility are not the only physical design traits that may influence children's walking patterns.

The Study

There is upward interest in engaging children in research. Children possess thoughts and feelings about the use of their local environments. As users of the neighbourhood, children can contribute ideas towards its design (Woolley et al., 1999). Integrating a range of age appropriate methods into the research study can assist with the articulation of the daily experiences of children from diverse backgrounds and situations (Punch, 2002; Backett-Milburn & Mckie, 1999; Matthew & Tucker, 2000; Morrow, 2001). The use of a multiple method research design provides a compromise between in-depth and interesting information (Smith & Barker, 1999; Groat & Wang, 2002; Punch, 2002). Therefore, this study used a range of methods to acquire a balance between engaging children in it and procuring relevant data.

Research Methods

This research incorporated three methods to integrate children's perspectives into models of pedestrian behaviour. The target population of my research was children between nine and twelve years of age. Thus, the methods implemented reflect a bias towards research techniques appropriate for children in the upper primary school age. Each technique promoted a specific objective.

- Written surveys contained 19 questions and offered generalized patterns of neighbourhood use during morning and afternoon school travels. The survey queried students about transport to and from school, local amenities along the school trip, and elements of a walkable neighbourhood.
- Drawing activities provided children with the opportunity to design a walkable neighbourhood. As an introduction, students were led through a visualisation exercise. They then were asked to draw a "neighbourhood good for children to walk in."
- Focus group discussions assisted in the interpretation of the drawings as well as defining the design characteristics of a walkable neighbourhood. Each of the four teachers assisted with the selection of six to eight students for the discussions. Discussions took place away from the classrooms

Data was collected on respective school grounds during normal school hours. Conducting research with upper primary school aged children subjected this research to ethical review. Ethics approval was received from both the UNSW Ethics Secretariat and the NSW Department of Education. Data collection commenced during Semester 1 of the 2007 school year.

Research Sample

Four governmental schools located within the Sydney metropolitan region were selected as study sites. School site selections were based upon neighbourhood layouts, particularly street patterns and access to amenities. The four schools were divided into two groups: inner and outer. The “inner” group, located along grid street formations, consists of Bourke Street Public School (PS) and Marrickville PS. The “outer” group, situated within suburban tract developments encompasses Green Valley PS and Hinchinbrook PS.

Each school neighbourhood contained various amenities within 400 metre radius of the school. Table 3 describes the major roads, recreational space, retail areas, and other features situated within each school neighbourhood. Marrickville PS and Bourke St PS are both located adjacent to one major thoroughfare.

Table 3. Amenities within 400 metres radius of each school

School	Major Roads	Recreational Space	Retail Areas	Other
Marrickville PS	Sydenham Rd Victoria Rd Addison Rd	Wicks Park Enmore Park Henson Park Swimming Pool	Shopping Centre	Community Centre
Bourke St PS	Cleveland St South Dowling St Anzac Pde	Moore Park Moore Park Golf Course Ward Park	Corner Shop Shopping Centre	Aussie Stadium Sydney Cricket Ground
Green Valley PS	Wilson Rd Rundle Rd Nth Liverpool Rd	Reserve Winnal Reserve	Shopping Centre Shopping Centre	Busby West PS James Busby HS
Hinchinbrook PS	Cowpasture Rd Wilson Rd	Woodside Park Murragan Reserve	Shopping Centre	West Hoxton Aerodrome Hinchinbrook Creek

The Findings

School travel trends, the state of travel accompaniment, and the design elements which children considered to make a “neighbourhood good to walk in” are reported. Eighty-three girls and boys aged nine to twelve participated in this study:

- Bourke St Public, “inner” 21 students from one multi-level class (Year 4 - 6);
- Marrickville Public, “inner” 12 students taken from one Year 5 class;
- Green Valley Public, “outer” 25 students taken from one multi-level class (Year 4 - 6); and,
- Hinchinbrook Public, “outer” 25 students taken from one Year 5 class.

School Travel Trends

Students were queried about their travel patterns to and from school. They elicited information regarding how they travelled, how they preferred to travel, why they preferred this mode of travelling, and what they found enjoyable about their school trip.

- Sixty seven percent of inner students walked, where as 62% of outer students travelled via motorised means (car/train/bus).
- Travel preferences shifted slightly for both inner and outer students. Walking was the preferred mode of travel chosen by both groups (43% inner, 34% outer). Vehicular transport was a secondary choice (26% inner, 32% outer). In addition to vehicular and pedestrian travel, approximately 24% of inner students and 22% of outer students stated that they would like to bicycle to school.
- Reasons for preference of school travel varied. Students selecting walking as their travel mode of choice generally spoke of the physical fitness benefits. Time factors were cited as reasons for choosing to travel by bicycle or vehicle.

- The elements which were sources of entertainment or interest along school trips did not greatly differ between the school groups. Twenty-seven percent of inner students cited “talking to their friends” as a source of fun followed by looking at buildings and watching people on the street (15%; and, 15% respectively). Twenty-eight percent of outer students also suggested “talking to their friends” as a highlight of their journeys. This was followed by looking at buildings and viewing flora (14%; and, 14% respectively).

Walking Alone or in Company

To determine the solitary or shared experience of travel, children were asked who accompanied them to school and whether or not they would like to walk alone. Those who chose to walk with accompaniment were asked with whom they would like to travel and why they choose their travel companions. Children indicated the importance of walking with someone other than their parent/guardian to and from school.

- While the majority of children (70% inner, 80% outer) travelled with a parent or guardian to school, the remaining students travelled alone (18% inner, 8% outer) or with peers or siblings but not with adults (12% inner, 12% outer).
- Preferences for school accompaniment depicted a change from parental accompaniment to peer and sibling accompaniment in both groups. Thirty-three percent of inner-city students and 44% of outer students wanted to walk with peers and/or siblings. Children also elected to walk independently (24% inner, 14% outer). As a student from Marrickville summarises, “it’s because you get to look at things by yourself and don’t always have to follow the adult.”
- Reasons for school accompaniment preferences differed. Students selecting to walk alone cited “quiet time” to think and reflect. Those opting to travel with siblings and/or peers mentioned the social value of having company. Safety reasons were given by those who preferred to walk with parents/guardians. Figure 1 is an example of the many drawings that reflected the presence of an older person at a street crossing. A common sentiment shared included one from a student attending Hinchinbrook Public: “I like to walk with older people and my friends at the same time- obviously there’s someone watching you plus you get to talk with your friends.”



Figure 1 Drawing by Bourke St student

Design Elements for a Walkable Neighbourhood

Focusing on school journeys, students were invited to share their general thoughts about walking. Through pictorial representations and group discussions, children communicated their ideas of a neighbourhood “good for children to walk in.” Five themes emerged: natural elements, recreational areas, retail areas, safety elements, and people.

Natural Elements

Flora and fauna were the most dominant features noted by the students. The majority of students (61% inner and 78% outer) drew trees and/or flowers. When trees and/or flowers were drawn, more than one tree/flower was drawn. The type of natural elements varied between the two groups. In their drawings, inner students included images of dogs and birds. The drawings submitted by outer students contained a variety of fauna including ducks, fish, birds, dogs, frogs, and butterflies. Furthermore, as the outer schools are situated near a water feature, more outer students contained images of water elements than inner students (46%, and 12% respectively). The water elements appeared as a source of entertainment. As a student from Green Valley noted, “There should be a pond and when kids come they can watch the ducks do something interesting and it’s really close to the school so if you get bored after school or if your parents pick you up they’re late, and you can swim.”

Recreational Areas

Through their drawings, children demonstrated the appeal of proximate playgrounds and areas for organised play. As a Green Valley student declared, “I think there should be parks- if they want to go to that neighbourhood there’d be parks- otherwise the place is going to be

really boring.” Inner school students drew playgrounds containing swings and slides. In addition to these, outer school students drew seesaws, monkey bars, and other playground apparatus. As far as recreational areas for organised sport activities, both groups illustrated soccer fields. Inner students additionally drew football fields while outer students drew images of swimming pools and skate ramps.

Retail Areas

It was evident that children from both school groups enjoyed the access of retail areas as they walked. There was a specific concentration of food and grocery stores depicted. For example, a student from Bourke St proposed, “a food store, so if you’re in a rush and you need to eat your breakfast you can just come along and buy something to eat and go to school.” Focusing on their commercial entertainment, outer

students additionally depicted toy stores and amusement areas. Amusement areas included areas like amusement parks, cinemas, and video arcades. Figure 2 reflects the common inclusion of one type of amusement (in this, case a cinema) and one type of retail (in this case, food shop, pet shop, and car dealership).

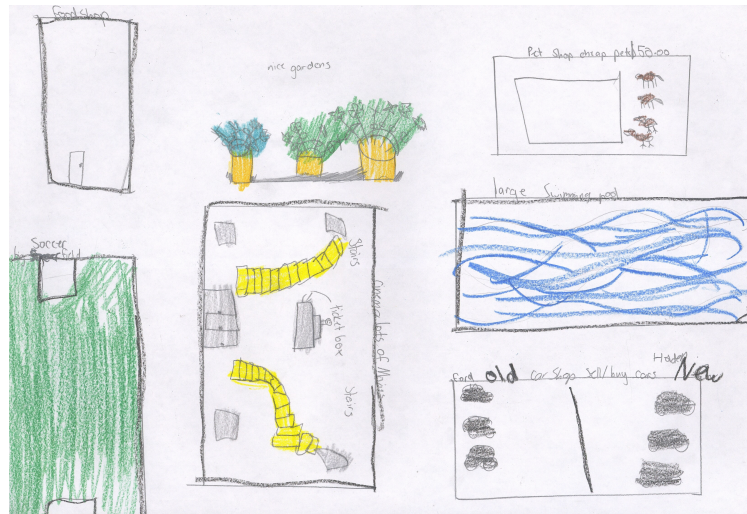


Figure 2 Drawing by Hinchinbrook student

Safety Elements

Feeling safe was a recurrent theme. Students elicited their opinions regarding protection from traffic, strangers, and dogs. In light of traffic safety, students suggested mechanisms to protect pedestrians (footpaths, pedestrian signals, and crossings) and to slow cars (roundabouts and traffic lights). As a Hinchinbrook student proposed, “There should be more school crossing and zebra crossings so to see if a car is going to come flying past. At least if you start walking they’ll know that that’s a good safe area.” Besides traffic safety, there exists a strong fear of personal safety as students discussed unknown persons. “I feel freaky when I’m on a street only by myself without my friends to keep me company and there’s someone staring at me that I don’t know” (Marrickville student). Stories of strange men were common as indicated by a Green Valley student, “Sometimes if you’re walking by yourself, a strange man might come up and grab you.” As well the potential of being kidnapped, students feared attack by canines. A student from Bourke St communicated “There were these big dogs. I was with my friend and she said don’t move and I got scared.”

People

The importance of the social aspects of walking was made evident by the students from both groups. Children were asked to nominate two things that they liked about walking in their respective neighbourhoods. Both groups cited people, whether friendly neighbours, playmates or others as their favourite element about walking (50% inner, 60% outer). In their drawings, children also drew children and



Figure 3 Drawing by Marrickville student

adults, male and female. Usually when people were drawn, there was more than one individual depicted. People were shown playing, walking, and as detailed in Figure 3, conversing about their surroundings.

Discussion

The results indicate that, to a child, the built environment along a school journey incorporates more than access and safety issues. In addition to possessing both the accessibility to retail and recreational areas and the feelings of traffic and personal safety, students want to engage with natural elements and people. Physical attributes which allow children to feel welcomed and employ their senses provide children with the motivation to walk to and from school.

After reviewing students' surveys and drawings, and discussions, it appears that there are opportunities to enhance the quality and quantity of children's pedestrian patterns to and from school. This can be achieved through augmenting the neighbourhood with natural amenities, investing in neighbourhood diversity, and recognising the importance of socialisation. These opportunities can collectively contribute to the physical, mental, and social development of the child along a school/home journey.

Augment the Neighbourhood with Natural Amenities

"I want to travel by walking because I love the fresh air and looking at nature"
Green Valley student

Aspects of the natural environment were the elements most frequently cited to make a neighbourhood walkable for children. The students appreciate "looking at beautiful scenery (Hinchinbrook student) and possess an urge for "beautification instead of concrete" (Bourke St student). Greening the school journey would appeal to their senses. Many commented on breathing in the scent of flowers. A student from Green Valley noted the "slow slugs and snails along the footpath" while a Marrickville student heard "a bird and her little babies in a tree."

The affordances of green landscapes developmentally stimulate the child. Trees were often noted by children for its aesthetic properties. "I like the wonderful trees that include of leaves. Different colours and shapes" (Green Valley student). Likewise, trees were noted for its properties for playing hide and seek, for climbing, for shelter from the heat and rain. As well as trees, water appeared to be a natural element that captivates students' imaginations. The reflection, the life contained within, the splashability, and the swimming prospects of water were imparted by students to be of great importance and should be encountered along a school trip. The provision of trees and water along a school route has the capacity to kindle physical flexibility, sharpen senses and engage children in social play. Much has been written about the ways in which the natural landscape can bolster children's development (Hart, 1979; Moore & Wong 1997; Faber Taylor & Kuo, 2006). It is time to recognise the significance of incorporating these physical amenities along school routes.

Given the rich imagery provided by the students, it is important to acknowledge that each child experiences their surroundings in a unique way. Due to the complexities of these individual experiences, it should be noted that there is no such thing as a "unitary child" (O'Brien et al., 2000, p. 275). We can not predict which sense a child will exercise along his/her journey to/from school. What we can do is to create an environment rich in tactile, olfactory, auditory, and visual stimulation. Such multi-sensory stimulation may also provide outlets for developmental creativity (Mead, 1984).

Invest in Neighbourhood Diversity

"(Neighbourhoods need) things that catch people's eyes along the way. They wanna stop and do things" Hinchinbrook student

The neighbourhood can be designed to incorporate children's need to "stop and do things." Inherent in children and synonymous with their development, this need inspires them to explore their surroundings, socialize with peers, and define their identities. In order to satiate this need, children need places: places to be physically active, places to navigate and places to hang out.

The students indicated that they would like to have pedestrian accessibility to a variety of places along the school route. According to the findings, access to recreational facilities was highly desired. As a Marrickville student declared, there is a need for "more fields and playgrounds because sometimes children have to walk very far just to go to, like, the playground to have fun and get active." The school journey taken on foot provides children with the opportunity to develop their motor skills.

Combine the walk from home to school with a spontaneous visit to an accessible park where students can swing or climb and the use of motor skills subsequently increases. Children need to be able to access these areas on foot.

Proximity is not the only factor when it comes to places for children to be physically active. “Yeah, like our playground is only for kids from K-2 and we’re not allowed to play in it” (Green Valley student). This sentiment was shared by students in both the inner and outer student groups. The areas for play need to attract the child’s interest as well. While many children depicted the common apparatus of playgrounds (Figure 4), students also portrayed skate parks and swimming pools in their drawings. Students in the outer group especially suggested the popularity of skate parks and swimming pools. These places afforded outlets for physical play and social engagement. It is important for play and recreational areas to accommodate the needs of middle childhood.

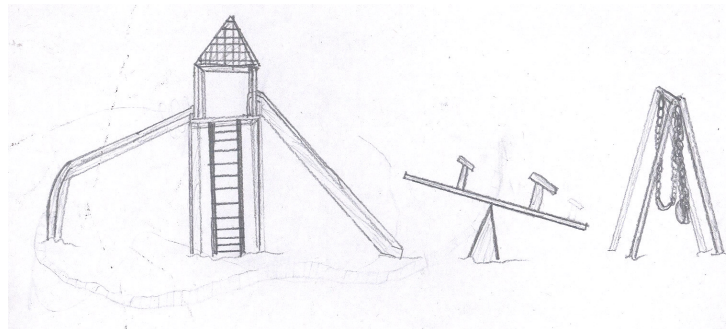


Figure 4 Drawing by Green Valley student

In addition to recreational areas, the students also cited the need for retail areas accessible during their school journeys. While some mentioned the need for clothing and toy shops, the majority of students expressed their interest to have local food shops. “Yeah I reckon there should be more kid’s stuff than adult stuff like cafes for kids” (Marrickville student). Embedded in this statement is a need for children to exercise their own decisions about when and what they eat and with whom they would like to share this time. Moreover, any retail purchase, whether it be video games or clothing apparel, provide opportunities for children to make decisions. Making decisions may be an empowering activity for children.

Furthermore, the provisions of a variety of areas allow children the opportunity to navigate different pathways to and from school. Sentiments commonly iterated the numerous routes taken: “I like walking in my neighbourhood because there are two ways for me to get home” (Hinchinbrook student). The variety of built environments including; but not limited to, recreational, residential, and retail areas, offer children visual landmarks along their school routes. “By choosing which way to go, there are many things I can see” (Bourke St student). Navigating through a rich landscape help children piece together the elements of their neighbourhoods (Lynch, 1977; Hart, 1979; Matthews, 1992).

Recognise the Importance of Companionship

“Other kids walked with me and we talked about what happened in school or what we want to do on the weekend.” Marrickville student

The children participating in this research study generally are not independently mobile during their journeys to school. Furthermore, they would rather be accompanied by parents, peers and siblings. This does not imply, however, that children’s developmental growth is restricted during their walks to school. For students attending both outer and inner schools, the notion of accompanied travel may cater to their motor, cognitive, and emotional developmental needs.

One of the main impediments towards a child’s walk to school deals with safety issues. The students collectively presented their concerns about traffic and personal safety. They suggested traffic lights and other design mechanisms to encourage vehicles to travel at slow speeds. Such suggestions have been implemented in other countries to urge children to walk to school (Boarnet et al., 2005). Encouraging traffic control design attributes are not the only solution to increasing children’s walks to school. Instead of directing vehicular movement, environments should be planned and designed to be welcoming and malleable. As a Bourke St student revealed, “I like it when there are more, more people walking.” Increasing pedestrian visibility is integral to changing the perception of danger prompted by both the increased presence of vehicles and amplified fear of strangers.

Students understand that the presence of walking companions bolsters a sense of safety. There is strength in numbers as walking in pairs or groups can increase pedestrian visibility to deter potential attacks. As this Marrickville school group discussion divulged:

Student A: When you walk on the street when you're by yourself it's more likely for you to get kidnapped cuz you're by yourself or you're more likely to get bullied.

Student B: If you're not with a friend.

Student C: You should have at least two people.

While safety is a concern, socialising may be a potential motivation for walking to school. At least one third of the research group noted that they would most like to walk with peers and/or siblings. The ability to converse about the school day, to make plans for the weekend, or to talk about music lists makes walking to school enjoyable. While we can not plan for where children's friends and/or potential walking companions will live, we can enhance the social experience of the journey. We can give them something in their environments to talk about. As discussed earlier, supplementing the natural landscape and providing diversity of areas offer children foundations for conversations. "Me and my friend like to find funny noises and have a game about who can copy it best" (Green Valley student). Catering to the accompanied school travel, neighbourhood spaces can contain interactive and social potential for children (Loukaitou-Sideris, 2003).

Conclusion

A good city was once described as "One in which children can grow and develop to the extent of their powers, where they can build their confidence and become actively engaged in the world, yet be autonomous and capable of managing their own affairs," (Lynch, 1979, p. 115). As the children in this study attest, this definition can be expanded to not only define a "good city" but all neighbourhoods "good to walk in" whether in "outer" suburban or "inner" urban environs. Neighbourhoods good for walking can facilitate children's potential to grow.

The walk to school can engage the mental, physical, and social aspects of a developing child. During middle childhood, children seek to carve their characters. "I like to walk because I will be not a nerd" (Bourke St student). As this study showed, the built environment can help shape these budding identities and contour children's developmental competencies (nerd like or not).

This paper has been concerned with advancing the opportunities which support the pedestrian patterns of children along their school journeys. Though children's independent mobility has received attention in Australia, meaningful advances have yet to be recognized. The results of this study suggest that children would like to experience natural elements, recreational areas, retail areas, safety elements, and people along their school journeys. Moreover, it is the ability to socialise with their peers/friends that may provide the underlying motivation for pedestrian trips. By elucidating children's interpretation of their school journey, practitioners, academics, and others can work towards designing sensory environments that embed healthy and developmental competencies among children.

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