Children, Environment and Independent Mobility

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While the importance of children’s access to their environment is well-known, there are alarming reports concerning “children’s loss of independent mobility” due to increasing traffic. Parents’ fear of traffic forces them to escort their children to school or to friends and consequently restricts the children’s freedom. This means that children are deprived of the opportunity to move freely, to meet other people and to experience the environment on their own.

Seven hundred fifty children in four differently-planned residential areas completed questionnaires about the way they travel, where they play, etc. A number of children and their parents were interviewed and the children pointed out the routes they took to school, to their friends and to their favourite places. This paper provides some results from this study, but also discusses the consequences of planning the physical environment in such a way that it prevents children from achieving “activity independence”. If the environment is perceived as a barrier (physical as well as social) it will undoubtedly have negative effects on children’s cognitive and social development as well as on socialization.

Keywords: built environment, children, development, mobility, traffic.

BACKGROUND AND THEORETICAL FRAMEWORK

The most important of the environments in which children grow up is that which exists in their immediate outdoor environment, their local environment. In order for children to develop into independently functioning members of society they must be able to spend time in their outdoor environment without needing to be escorted by adults, i.e. they must have the opportunity for independent mobility. According to Moore & Young (1978), the outdoor environment is an important counterbalance to the more adult-dominated indoor environment and the place where children can encounter living systems and the prevailing culture.

Along with the knowledge that children develop through interaction with their local environment — through independent exploration and stimulating environmental experience — goes the demand that the physical environment should be accessible to children without risk of accidents or restrictions in the form of prohibitions or parents who are forced to drive their children around. Children’s development, both physical and psychological as well as social, is intimately connected with play, which is precisely the way in which children principally interact with their surroundings. Children play the whole time, even on the way to and from school. By means of play, understood in a global interactional perspective, children train their cognitive, mental, social and physical abilities.

International studies have found that children’s independent mobility has decreased drastically and that their play areas are shrinking. In the study “One False Move”, Hillman et al. (1990) give several examples of how children’s mobility has decreased alarmingly during the last 20 years. To an ever-increasing extent children in 1990 were driven to and from school compared with children in 1971, and fewer children were allowed to cross the road, cycle or take the bus on their own. These developments not only have an effect on children’s mobility but may also have future consequences for their health. In the same way, children’s mobility in Canberra has been reduced during just the last generation (Tranter, 1993).

A great deal of research within environmental psychology has studied the relationship between the physical environment and the individual’s development with respect to cognition and perception (McAndrew, 1993). The focus of these studies has to a large extent been on the physical environment’s significance for the individual’s social development and physical health. In England, one sees a considerable need to link the concepts health and quality of
life with transport- and traffic-planning in ongoing research (cf. Davis, 1995). Even in Sweden, traffic problems are increasingly coming to be seen as a public health problem within a global societal context rather than as an isolated phenomenon.

It is important that children are given the opportunity to interact with the physical environment in order to develop optimally. This is borne out by theories from both developmental psychology (Björklid, 1980, 1982 and 1991) and environmental psychology (Ittelson et al., 1974; Stokols & Altman, 1987). These theories, grounded in an interactional approach (Björklid & Fischbein, 1992) in which a developmental-ecological model (Bronfenbrenner, 1979) is used to elucidate the global perspective, form the basis for this study.

The central point of the study is to investigate children’s mobility in four different local environments in order, among other things, to compare corresponding conditions in Sweden with international results. The local environments differ in terms of planning and construction, but it is principally differences in traffic design that are of significance.

A SOCIETAL CONFLICT — ACCESSIBILITY FROM A CHILD’S PERSPECTIVE

Cars compete with children’s need for space in the local environment and for good environments in which to grow up.

This is further evidenced by other international studies into children’s mobility, for example in Italy and the Netherlands. Studies in Milan (Vercesi & Iannacone, 1995) stress that it is not simply traffic per se which is the problem but also parked cars, which steal children’s play space.

In Amsterdam one-third of children in the study virtually never spend time outdoors and many children never play at home with friends (Van der Spek & Noyon, 1995).

National road-safety documents in Sweden emphasise that people should be placed at the centre of the issue, that extra consideration should be given to children and that the risk of death or injury alone should not be seen as the problem, but that other factors — such as perceived risk and insecurity, parents’ and children’s anxiety, and restrictions on children’s mobility — should also be taken into account.

For example one may read that “Mobility is positive and fundamental for people’s welfare” (Vägverket, [The Swedish National Roads Administration] et al., 1994, p. 12). However, it is important to define whose mobility is being considered here.

In a developing society, accessibility is important and has an economically measurable value (Vägverket, 1995). One of the reasons why road-safety work is accorded a lower priority is that it lacks organisational weight, which makes it easier to promote accessibility than road safety. Following on from this is the risk that accessibility comes to refer not to children, but to traffic.

The fact that the car is often a symbol of freedom does not automatically mean that this is the case for children, which is why it is important to understand the problem of children’s restricted mobility from their point of view.

What is required, in other words, is a child-perspective which deals with the child’s outlook on and experience of their own existence, to understand that their needs are different from those of adults (Rasmussen, 1994).

AIMS AND ISSUES

The aim of this study is to investigate children’s mobility (their opportunity to move about independently without adults as escorts) in relation to the planning of the physical environment — here with the emphasis on traffic planning — but also in relation to similar international studies.

With the local traffic environment as a starting point, the following issues will be addressed:

* How does children’s mobility appear in relation to their age and sex in the different residential areas?
* Do international similarities/differences exist concerning children’s mobility?

In subsequent studies other issues will be addressed, e.g:

* Do parents experience anxiety on account of traffic in the local environment and how do they express and deal with this anxiety?
* If children and parents are anxious, what significance does this have for children’s mobility?
* How do children themselves perceive their local environment and how do they make use of it?

This means that more of the socio-physical factors (influences) will be taken into consideration.

METHOD

The study comprises both quantitative and qualitative methods, which means that questionnaires, interviews and participant observations are all included within it. The gathering of the questionnaire data was carried out through personal visits to 36 classes, thereby offering an opportunity to explain the questions to the children and providing them with favourable con-
ditions in which to successfully complete the questionnaires. The children were either eight or eleven years of age.

Around 25 families took part in the interviews. The parents described their anxiety and how, for example, they perceive the risks in the environment. The children in these families were interviewed and pointed out their school route and their outdoor environment. Maps were used, to allow the children to indicate the extent of their “mobility radius”. The pupil questionnaires will also be analysed in relation to the approximately 1,000 parent questionnaires included in another study within the same project (Björklid, 1996). This paper focuses mainly on some results from the children’s questionnaires.

A QUESTIONNAIRE STUDY FOR PUPILS

During the autumn of 1994 and the spring of 1995 around 750 children (aged eight and eleven) filled in a questionnaire concerning, for example, how they travelled to and from school and whether they had company or went alone, whether they were allowed to cycle without an accompanying adult, whether they were allowed to be outdoors on their own when it was dark and whether they were afraid in traffic. The children attended nine different schools distributed in the following four residential areas:

* **Södra Station** — a newly-constructed inner-city area, fully traffic-segregated but surrounded by streets with traffic;
* **Skarpnäck** — a newly-constructed residential area, partly traffic-segregated;
* **Segeltorp** — an area of single-family houses with traditional traffic solutions;
* **Östra Skogås** — a fully traffic-segregated residential area.

Södra Station is situated in Stockholm’s inner city. The area consists for the most part of seven-storey buildings and was completed in 1993. The buildings are post-modern in design and the area is compactly constructed. The Södra Station area itself is traffic-segregated. A pedestrian road runs through the whole area. The children living here can choose from among four different schools. None of the school routes is traffic free owing to the fact that no schools exist within Södra Station; consequently all the children in the study must cross streets with traffic in order to reach their school.

Skarpnäck is situated in Stockholm’s southern suburbs and was officially opened in 1984. It consists principally of blocks of flats and is designed according to a grid system. In character it resembles a small town. The buildings, with a few exceptions, are four storeys high. Skarpnäck’s playgrounds are traffic-segregated, but the residential area is split up into blind alleys. Whether or not the children have to cross streets with traffic on their way to school depends on where they live in relation to the smaller roads in the area and to a large through-road where only buses are allowed.

Segeltorp is a district of single-family houses dating from the 1920s and lies in a neighbouring municipality of Stockholm (Huddinge municipality). Segeltorp has grown up around single-family houses, terraced houses and half-terraces as well as occasional blocks of flats. There are two busy through-roads and where these two roads meet is Segeltorp’s town centre. It is here that the school attended by the children in the study is also situated. None of the school routes is traffic-free. Almost all children are forced to cross at least one road with traffic, most of them several, to get to school.

Östra Skogås is also situated in Huddinge municipality. The area was built during the 1980s and is dominated by terraced houses. It is traffic-segregated and parking for the terraced houses and blocks of flats is located outside the blocks. Overpasses and underpasses to the school, which the children in the study attend, make the school route traffic-free even for those children living on the other side of a feeder road.

Socio-economics of the areas

Of these four areas, Segeltorp has the highest average income and the lowest number of recipients of social assistance. In contrast, Skarpnäck has the the lowest average income and the highest number of recipients of social assistance. The two other areas, Södra Station and Östra Skogås, come somewhere in between concerning income as well as social assistance.

Regarding education, Södra Station has the highest percentage of college or university-trained persons and Östra Skogås the lowest. Between Segeltorp and Skarpnäck there is just a slight difference. It may be of interest that Skarpnäck has the highest number of foreign citizens (18%). The other three areas have about the same number (7–8%). You find the highest number of cars per family in Segeltorp and the fewest in Södra Station.

RESULTS

In the presentation of results below I will address the following issues:

* How do the children came to school on the actual day of the study?
* How do the children travel to their leisure-time activities?
Where are the children allowed to cycle with/without an accompanying adult?
Are the children accompanied to school?
Can the children travel to their friends on their own?

Since there are several alternative answers to the questions presented here, the totals of some of the figures do not add up to 100%.

Segeltorp, where there is no traffic segregation, shows the highest frequency of travel by car. In contrast, Östra Skogås, the area where traffic is most separated, shows the highest frequency of travelling by bicycle. A slightly higher frequency of other means of transportation (i.e. buses) can be noticed in the inner-city area.

Figure 2 shows how age can be related to being taken to school by car. In Segeltorp more than half the children aged eight were driven and almost a third of the children aged eleven.

Even in Östra Skogås, which is about the same distance from Stockholm as Segeltorp, a quarter of the children were driven, though only those in the younger age group. In the remaining areas, only a few children were driven to school on the actual day of the study. Car travel is greater in all four areas, most of all in Segeltorp, comparing journeys to activities (Figures 3a and 3b) with journeys to school (Figures 1 and 2).

The difference is particularly striking for older children. This raises the question: where are children’s activities located?

Is this to be interpreted as an example of car use being determined by social planning? What does it mean for the parents, additional stress?

What does it mean for the children who cannot be driven? These are issues that are examined further in the interviews. The inner-city area (Figure 3a) shows the highest frequency of going on foot, where more than half of even the younger children walk.
As regards the extent to which children are allowed to cycle without an accompanying adult, most eight-year-old children and all eleven-year-old children are allowed to cycle alone. However, there is a significant difference among the children in terms of where they may cycle. In Södra Station for example, 90% of the eight-year-olds are allowed to cycle unaccompanied but, of these, 77% are only allowed to cycle on cycle paths.

Corresponding results for the older children are that, of 100% allowed to cycle unaccompanied, 40% may only cycle on cycle paths. The fact that children cannot use their bicycles as a means of transport is something that worries most parents.

For cycling is of course one of the best means of transport available, especially for children. One in three of all children travelled to school alone. Among the remaining two-thirds the company varied.

The younger children in all areas were usually accompanied by a parent, rather more so in Segeltorp than elsewhere. The older children were typically accompanied by friends.

The exception was Segeltorp (Figure 4), where almost 40% of children were accompanied by an adult. A final example by way of illustrating children’s mobility is the extent to which children are allowed to travel to friends alone.

One reason why fewer children in Södra Station than in Segeltorp are allowed to travel to all of their friends alone is that more restrictions are placed on the children in the Södra Station when they go outside their traffic-segregated residential area. When a traffic-segregated resi-
The interviews with both parents and children seem to prove the importance of the outdoor environment. For parents it determines the degree of anxiety they feel about traffic and for children the manner in which they can make use of the environment. From the interviews it appears that parents in traffic-segregated areas are less worried about traffic than those living in areas where traffic is heavier.

In terms of children’s experience of their local environment, there is a significant difference in how much or how little it has to offer and consequently how it is used by children. On the other hand, children are happy in their residential environment regardless of where they live. This is a very rough summary; work on the interviews is still going on, especially on the analysis and the interpretation.

**MOBILITY AND QUALITY OF LIFE**

Traffic has great significance for one’s experience and use of the local environment. The results show that the planning of the physical environment affects children’s mobility. When such an obvious and everyday phenomenon as the school route entails that children must be driven to school rather than making use of the opportunity to be outside with their friends, both children’s socialization and development are impeded.

**INTERVIEWS WITH CHILDREN AND PARENTS**

Figure 4. Who accompanied the eleven-year-old child to school on the day of the study?
This in turn affects the individual’s future health and quality of life. There are signs that differences exist in children’s opportunities for independence depending on the nature of the traffic situation in their local environment. Children living in a traffic-segregated area have greater freedom to go out on their own compared with those living in areas where, for example, busy roads become barriers. These children must plan their excursions and leisure time with reference to their parents’ ability to accompany or even drive them. In other words children’s mobility has implications not only for the children’s own situation, but also for that of their parents, among other things in terms of worry and stress. Another issue is the risk of negative accommodation. This means for example that parents and children regard it as quite natural that one can no longer walk or cycle, but must use the car instead.

It is important to see road-safety work from a global perspective in which traffic is not an isolated problem, but rather a public health issue. The planning of the physical environment must take place from a child perspective. In such a context, children’s right to a safe and stimulating outdoor environment will be met, which coincides with the UN Convention of Children’s Rights. If children are given the right to be active individuals and the opportunity to both explore and shape their local environment, this will in the long term encourage the development of fully-involved members of society (cf. Hart, 1992). This can be seen in a wider and more inclusive social context. Altman & Wandersman (1987) begin their foreword with the following words:

Neighborhoods and communities can be proactively changed to become places where people want to live and where they can prosper physically, psychologically and socially. In many respects, the quality of life in neighborhoods and communities is and can be heavily influenced by how residents relate to one another as neighbors, how they deal with the larger society of which they are part and how they care for the physical environment. (p. xxi).

International comparisons may portray Sweden as relatively free from problems. If one plans purely with a view to accessibility for cars, there is a risk that we may soon find ourselves in a similar situation to that already existing in England, where children’s mobility has been so drastically reduced over the last 20 years (Hillman, 1990, 1993).

The importance of the quality of life is stressed in a variety of contexts. When the conditions are lacking for mental and physical health and for influence and control over one’s existence, we can never achieve quality of life. And without mobility these conditions cannot be created. Children’s mobility in other words has far-reaching consequences, not merely for the individual but for society as a whole.

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UN, Convention on the Rights of the Child.


Children’s Independent Mobility: an international comparison and recommendations for action was written by Ben Shaw, Martha Bicket, Bridget Elliott, Ben Fagan-Watson and Elisabetta Mocca, with Mayer Hillman. It was published by Policy Studies Institute in 2015. The best initiatives were found to focus on transforming urban environments to enable children’s independence and development, as part of a wider programme of social, environmental and economic development. The examples of the cities of Rotterdam and Vancouver amongst a few other examples, are notable and perhaps exceptional for their level of ambition and focus on transforming urban space for children and wider societal, environmental and economic benefits.