Child Friendly Cities: The case of Wroclaw in Poland

Thesis Plan

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Chapter 1. Thesis plan

1.1 Motivation

Before the 1970s, children were able to be and live in the city. It was safe to play in the street and facilities were located in the neighbourhood. Therefore, most children older than 6 were able and allowed to travel individually to school, friends and clubs. (KpVV, 2008) However, since cities have started to provide space for cars, the city has become more dangerous for children to be in. Because the car enables people to travel over longer distances, many families have decided to leave the city for better living conditions. During the past 40 years, this has been the pattern of urban growth. However, with cities spreading out, many facilities for children have become uneconomic, which has caused a thinning and excavation of the city. Now, due to larger distances between homes and destinations, many trips can only be made by car, which forces many parents to transport their child on the backseat of the car. More cars on the street, however, increases parental concern over safety and makes even more families decide to leave the city for better living conditions. The result is a vicious circle of an ongoing increase in car use and a worsening perception of street safety that increasingly constrains the individual development of children and leads a thinning and excavation of the city. (Spapé, 2005)

1.2 Problem definition

Since the 1980’s, cities have aimed to improve child friendliness in the city, by the creation of new networks for walking and cycling, the introduction of traffic calming areas and the redesign of streets for mixed traffic uses. (OECD, 1998) In The Netherlands, the result is an annual decrease of 3.3% in the amount of traffic fatalities among children. For other age groups this is 2.4%. (SWOV, 2009) However, over the past 25 years, the average age at which children are allowed to travel individually has moved up from 6 to 7-8 years old, with 75% of all children kilometres travelled on the backseat of the car. The result is a tripling in the amount of overweight children (Bakker & de Vries, 2009) and a lack of traffic experience, which has caused higher accident rates for 12-15 year olds. (Spapé, 2005)

The reason for the ineffectiveness of these measures can be explained with an example. The city of Wroclaw in Poland is dangerous for children to be and live in. Children suffer from the abundance of car use, that is caused by Wroclaw being an important infrastructural node that connects the south of Poland, Germany and the Czech Republic with other major cities in Poland, like Poznan and Warsaw. The city is enlisted in TomTom’s (2010) yearly congestion monitor as third worst congested city in Europe. Therefore, many families have left the city in search for better living conditions in bordering municipalities, which causes that Wroclaw’s population is shrinking (Table 1)
Table 1: The development of Wroclaw’s population.

Because Wroclaw will host the UEFA European Championship in 2012, many new urban projects have been admitted. In response to car abundance in the city, a new highway around the city is being build that needs to reduce the amount of cars in the city. At the same time, Wroclaw aims to improve child friendliness in the city, by improving street safety and providing better conditions for walking and cycling. The aim is to increase bicycle use from a 3% modal split to 10% within the next 5 years. However, with new housing development planned in the periphery of the city, it is highly questionable if this aim will be reached. New families will be attracted to live in the periphery, which will make the distances for these families to travel larger. The results will be a growing need to use the car and an increase in car use, which will probably worsen the perception of street safety. (Figure 1)

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>1970</td>
<td>526.000</td>
</tr>
<tr>
<td>1975</td>
<td>579.900</td>
</tr>
<tr>
<td>1980</td>
<td>617.700</td>
</tr>
<tr>
<td>1990</td>
<td>640.577</td>
</tr>
<tr>
<td>1999</td>
<td>650.000</td>
</tr>
<tr>
<td>2009</td>
<td>632.240</td>
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Figure 1: New housing development in the periphery of the city.
What the example of Wroclaw shows is that cities are using strategies to improve child friendliness that are ineffective. With an ongoing increase in car use (OECD, 1998), the perception of street safety worsens and make many families want to leave the city. With the ability to leave provided, the choice is quickly made. However, this development increases travelling distances and the need to use the car and results in a vicious circle of an ongoing increase in car use and a worsening of street safety which leads to a thinning and excavation of the city and thus creates a city that is becoming less and less suitable for children to be and live in. Therefore, cities need develop new urban strategies to improve child friendliness in order for the city not to become childless.

1.3 Project aim

The aim of this Master Thesis is to help cities in developing new urban strategies to improve child friendliness by defining the characteristics of the child friendly city and translating them into a method that can be used to research and improve child friendliness in cities. This method will be used to test its applicability on the city of Wroclaw by researching the city on child friendliness and creating a new urban strategy and design that shows how the city can become a better place for children to live in.

1.4 Relevance

For children it is important that they can play and move outside. It is their natural habitat and an essential part of their daily lives. Children need streets and public space to go to school, to cycle, to play, but also to discover the outside world. (KpVvV, 2008) The ability to play and move allows them to develop their physical, motor, social, cognitive, psychological and emotional skills. It also lets them be physically active, which positively stimulates their health condition, prevents them from becoming overweight and reduces their stress level. The city should stimulate children to individually develop themselves by providing them in their spatial needs, without causing constraints. (Kips et al, 2009)

The child friendly city is good for children, their parents, other adults and society as a whole. (Ruimte voor de Jeugd, 2005) In the child friendly city, children can be taught about the do’s and don’ts in traffic, which stimulates them to be independent, to make decision and to solve problems and can discharges parents from many pick-up and drop-off obligations. (Kips et al, 2009) The child friendly city also benefits other non-motorised road users, like pedestrians and cyclists, but also elderly people that are stimulated to be outside, to meet with each other and walk and cycle more, thus stimulating physical activity and social cohesion. This will also reduce the amount of cars in the city, thus improving traffic and social safety and reducing emissions and noise pollution. (KpVV, 2008)
1.5 Theoretic framework

Wroclaw is not the only city that is facing the effects of decentralisation. Many European cities are suffering from urban sprawl that causes higher energy consumptions, higher travelling distances and an increased use of the private car. (ECOTEC, 1993; Newman & Kenworthy, 1989a, 1989b) And “the most likely scenario of urban development is continued spatial dispersal.” (Dieleman & Wegener, 2004) The origin of the problem lies in urban planning itself, that has given in to the demand for car use. Until the 1960’s, urban planning used to have a strong history of visionary ideas. After this date, urban planners have lost confidence in themselves and led pragmatism rule. (Breheny) Often neglecting signals that warned for a possible quality of life (Jacobs, 1962) and a threatened environment. (Carson, 1962) Now, the European Commission (1999) states that “the car has become the victim of its own success”. Current levels of car use threaten public health, safety and accessibility by producing congestion, pollution, road accidents and reduced mobility. (Alayo et al, 1998)

Fishman (1977) addressed the need to return to urban planning with vision, there other strategies have proven to be ineffective: “The ideal cities of Howard, Wright and Le Corbusier have not been pushed aside by more up-to-date solutions. They have been superseded by the belief that no such ‘solution’ exists… There is now a widespread reaction against the idea of large-scale planning. Its most profound source, I believe, is the loss of confidence in the reality of a common good or purpose which can become the basis of city life.” However, since the UN report “Our Common Future” (Brundtland, 1987) was published, such a common purpose exists: Sustainable development. That is “development that meets the needs of the present without compromising the ability of future generations to meet their needs”. Or like IUCN, UNEP and WWF (1991) define the aim as “to improve the quality of human life while living within the carrying capacity of supporting eco-systems”.

Alayo et al (1998) point out that urban form has become reliant on car use. That is why sustainable urban development focuses on creating an urban form that reduces the need to use the car, and thus improves quality of life. Development towards a ‘compact city’ form seems to be profitable. Research shows that urban compaction reduces the total amount of car kilometres driven. (ECOTEC, 1993; Newman & Kenworthy 1989a, 1989b) The compact city vision is based on the dense core of many historic cities and is often seen as an ideal place to life, where a diverse and vital urban life can be experienced. However, Jenks et al (1996) point out that this vision might be to romantic, aiming at a golden age that can be recaptured through urban form. Breheny (1996) questions the applicability, there the willingness to change might be threatened by market forces and public acceptability, which is supported by Bertolini & Dijst (2003) who point out that the reliance on car use is actually caused by changed social and economic structures and cultural and demographical changes resulting from car use that has enabled people “to live in one place, work in a second and recreate in yet a third”.
Cities have developed by a “coexistence of spatial decentralization and concentration forces”. Multiple urban forms and centres are formed by selective urban activities. Urban dwellers ‘surf’ between forms and centres by developing spaces with specific combinations of activities, following individual lifestyles and traits. Due to the increase in distances of travelling and more diverse activities, structural constraints to mobility have appeared and led to an extrication of activity patterns and the physical city: “Each individual, group or organization may increasingly create his own ‘virtual city’, which has no set physical and administrative borders, but is rather a specific, changeable combination of activity places connected by transport networks, within definite socio-economic and behavioural constraints”.

Structural constraints to mobility have to do with costs, in the form of time, rather than distance and take on the form of relatively stable ‘travel time budgets’ (Zahavi, 1974; Hupkes, 1982; Downes & Emmerson, 1985; Schafer & Victor, 1997), ‘travel time ratios’ (Dijst & Vidakovic, 2000; Schwanen & Dijst, 2001) and commuting time (Van der Meer & Mukherjee, 1998; Kenworthy & Laube, 1999).

The child friendly city, however, stimulates children in their individual development by providing them in their spatial needs, without causing constraints. Because this imposes a city that is of a “form and scale appropriate to walking, cycling and public transport and with a compactness that encourages social interaction” (Elkin et al, 1991) it is rather about providing a distance of travelling that allows time constraints to be overcome. (Graham & Marvin, 1996) Alayo et al (1998) state that accessibility can be obtained by mobility, but also by proximity. “Development of the past has focused mainly on accessibility through mobility, resulting in a loss of accessibility through proximity”. Novem (2002) addresses the need to plan for proximity and thereby reduce the need to travel.

The loss of accessibility through proximity is on the basis of cities becoming more child unfriendly. In many cities, children are not provided in their spatial needs, due to distance and safety constraints that constrains children in their individual development. Because children’s patterns of activity are formed and limited by the specific needs and constraints belonging to their phase of development, their ‘virtual cities’, that encompass multiple spatial and temporal scales, might not appear and overlap. The child friendly city, however, provides children in their spatial needs, without causing constraints and creates ‘virtual cities’ that appear and overlap. This means that in locations of overlap, spatial conditions in the form of transport provision and proximity features are provided that comply with the specific needs and constraints of the children who’s ‘virtual city’ actually overlap in that specific location. If a location of living provides children in their spatial needs, without causing constraints, the only goal is to provide parents with the conditions that are important for them and to create a density of living that enables the facilities that they use to be economic.
1.6 Project approach

The project is divided into two parts. The first part aims to develop a theoretic justification for the method that will be created to research and improve child friendliness in cities. The second part is a practical elaboration in which the method will be tested on its applicability. The first research question (Q1) aims to find the characteristics of the child friendly city. Therefore, four sub-questions need to be answered. Sub-question (q1.1) is put to define the specific conditions that parents prefer to live in by looking at the reason for families to leave the city. Sub-question (q1.2) is put to define children’s spatial activity patterns by looking at children’s specific spatial needs. Sub-question (q1.3) is put to define the factors that constrain children from being provided in their spatial needs. The last sub-question (q1.4) is put to determine the density of living that makes children’s facilities economic.

Research question (Q2) aims to find the way in which the characteristics of the child friendly city can be translated in a method that can be used to research and improve child friendliness in cities. This will be done by answering three sub-research questions. Sub-question (q2.1) is put to find the input for the method by looking at the specific demand on spatial characteristics in locations where children’s ‘virtual cities’ appear and overlap. Sub-question (q2.2) is put to determine the way in which the city can be researched on child friendliness by making use of the spatial demand on these locations. Sub-question (q2.3) is put to define the way in which the results of the research on child friendliness should be interpreted by defining how possible results relate to the characteristics of the child friendly city.

The second part aims to test the method on its applicability. Therefore, the city of Wroclaw in Poland will be researched and improved on child friendliness. The third research question (Q3) aims to find out how child friendly Wroclaw is and where improvements can be made. This question is answered by four sub-questions. Sub question (q3.1) is put to define the way in which the input of the method is applicable for the Wroclaw situation by researching if children’s lifestyle in Wroclaw is specific in a way that it does not comply with the characteristics of the child friendly city. Sub-question (q3.2) is put to determine where Wroclaw can be improved on child friendliness, which in fact is an analysis of the city on child friendliness. Sub-question (q3.3) is put to define how child friendliness in the city can be improved and is in fact a strategic plan. The last sub-question (q3.4) is put to determine the way in which child friendliness in Wroclaw is being provided and is in fact a design of a part of the city that according to the strategic plan should be improved on child friendliness.

The fourth and last research question (Q4) aims to define the way in which the method has enabled to research and improve the child friendliness of the city. Therefore, the first sub-question (q4.1) is put to reflect the strategic plan on the characteristics of the child friendly city. In accordance, sub-question (q4.2) is put to define how the design reflects on the characteristics of the child friendly city.
1.7 Research questions

Q1. What are the characteristics of the child friendly city?
  q1.1 What are the reasons for families to leave the city?
  q1.2 What are children’s specific spatial needs?
  q1.3 Which factors constrain children from being provided in their needs?
  q1.4 Which density of living makes children’s facilities economic?

Q2. Which methods can be used to research and improve the child friendliness in cities?
  q2.1 What are the spatial demands on the locations where children’s ‘virtual cities’ overlap?
  q2.2 How can the city be researched on child friendliness?
  q2.3 How do possible research results relate to the characteristics of the child friendly city?

Q3. How can Wroclaw strategically be transformed into a child friendly city?
  q3.1 How does children’s lifestyle in Wroclaw change the concept of children’s virtual cities?
  q3.2 Where can Wroclaw be improved on child friendliness?
  q3.3 How can Wroclaw be improved on child friendliness?
  q3.3 What are the characteristics of child friendly Wroclaw?

Q4. How did the method enable to research and improve the city on child friendliness?
  q4.1 In what way has the strategic plan created a child friendly city?
  q4.2 In what way has the design improved child friendliness?

1.8 Methodology

The Master Thesis is a design-driven project that aims to provide new insight and to add this to the body of knowledge of child friendly city development. The first part of the thesis is a literature study that forms the theoretic justification of method to research and improve cities on child friendliness. Therefore, a bottom-up approach is used. The second part of the thesis is a case study that forms the practical elaboration of the method and consists of an analysis, strategic plan and design of the city of Wroclaw and an evaluation of the method’s applicability. Therefore, the second part uses a top-down approach. The approach has been summarised in a methodological flowchart, that is represented in figure 2 on the next page of this report.
Figure 2: Methodology flowchart.
1.9 Intended end-product

The Master thesis aims to develop a method to research and improve the city on child friendliness. Thus the main product will be the method. As side products, the characterisation of the child friendly city and, the analysis, strategic plan and design can be mentioned, but also the evaluation will give a product that will show the method’s applicability. All products together might be used to create a research paper that adds to the body of knowledge of child friendly city development.

1.10 Time-schedule

Figure 3: Time-schedule
1.11 Literature