GRADUALLY GROW TO CYCLE:
EXPERIENCES WITH A CHILD-FRIENDLY PUBLIC SPACE.

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Summary
To keep the Dutch bicycle tradition alive in the future, children must be facilitated and stimulated to play in the public space and to gradually grow into an independent pedestrian and cyclist in their town or city. City planning and management of public space should create a rich learning environment for children.
In this paper, we focus on the lessons that can be learned from history to design the child-friendly public space for the future.

Innovation in the field of child-friendly public space and traffic has played an important role in Delft since the 1960s with the introduction of the woonerf. Delft was in 1986 the first Dutch city to realise a comprehensive bicycle network in an existing town. Today the municipality wants to improve further the position of cyclists in Delft with special emphasis on the position of children. The current Safe Routes for Children project focussing on seven different aspects of independent mobility will be completed summer 2005.
This theme will be dealt in more detail during a summer conference we organise in Delft in August 2005. (More information on www.urban.nl/childstreet2005)

1.   Children in cities, Delft in historical perspective.

1.1   Children and public space

Nowadays thinking about the public space in cities is dominated by people with a traffic background, a traffic view. Cycle advocates quite often share that view and within the traffic view they try to include a bicycle view. In this paper we will introduce and add another view, the children view with more focus on the social, the meeting, the playing and the residential function of the public space. This other position we call the child view. A main reason to add this view is to keep the bicycle tradition alive in the future in the Netherlands. Therefore children must be facilitated and stimulated to play in the public space and to gradually grow into an independent pedestrian and cyclist in their town or city. In order to open eyes for that other view, you are invited to travel to historic Delft.

1.2   1670: Vermeer and playing children

Vermeer's famous painting (1650) called straatje (small street) shows us a secure and attractive place for children to play in front of their house. In the detail we have selected, a woman is repairing clothes while keeping eye on the children playing on the edge of the 'stoep', a semi private zone in front of the house.

The next painting (1886) shows a street where many functions share the public space. The stoep on the house side was used for display and trade of goods and the middle of the street was primarily for playing children and mixed traffic of pedestrians and horse carts at foot pace. Trees added to the agreeable environment. [1]

Vermeer (1670)

Enkhuizen (1886)

1.3   1970: the introduction of the woonerf
Streets having many functions was the common situation up to the 1950's. Then the number of cars, driving and parking, expanded quickly, which had a great impact at street life. Children and pedestrians were pushed out of the way to the very edge of the street. At the end of the 1960's, the cultural climate supported a critical rethinking of these developments on society. Due to an ideal combination of a group of creative urban designers at the municipality, awareness of the problems caused by cars at the police department, new solutions of road use were developed, introducing humps, sleepers, concrete pipes, millstones and other obstacles to slow speed of traffic to the human scale. Plants and flowers were added by the residents. This solution spread out over the whole country supported by an action group (Stop child-murder!) fighting against traffic unsafety. The first woonerf law giving rather strict rules was introduced in 1976 with an update making rules more flexible in 1988, facilitating the erf in other environments like around schools, in city centres etc. [1]

The new European (woon)erf sign was introduced and we have seen it in use, recently, in several parts of Europe (Germany, Poland, Hungary, Austria, Belgium, Italy, Spain etc)

1.4   1980: the bicycle network
In Delft public space activities moved to the stimulation of bicycle use. Between 1976 and 1986, with financial support of the government, an orthogonal bicycle network was introduced, the first in an existing town. Several short cuts, tunnels and bridges were added to the infrastructure. [2]

1.5   1990: 30-km areas
On a national level the government, regional authorities and local councils agreed on the 'Sustainable Safety' programme. As one of the activities all urban streets, with the exception of a limited number of traffic arteries, should be turned into vast, comprehensive 30 km/h zones. Although the introduction and expansion of 30 km/h as a default maximum speed in urban area is a very important and useful development in the field of traffic safety, some remarks must be made.

The classification of the roads within built-up areas into two categories (max. 30 km/h as a rule and max. 50 km/h as an exception) is seen by many as a technical operation, ignoring or even rejecting the attainments of the woonerf, viewing public space from a dominant traffic perspective.

From the people (children) perspective, an allowed maximum speed of 30 km/h will reduce fatal injuries but the speed is still very high from the children perspective. It's clear that 30 km/h is far below the technical possibilities of the car, but cycling with 30 km/h can only be done by trained people. As a result of these activities in the field of Sustainable safety, the confusion related to woonerfs increased and although 30 km/h zones can also comprise woonerf-streets, a lot of woonerfs were turned into 30 km/h streets. Several illustrations can be shown in Delft too.

In a effort to reduce confusion, a district court in 1998 quantified foot pace (in Dutch stapvoets), the maximum allowed speed in woonerfs to 15 km/h, a moderate biking speed. Nevertheless, the important formal, conceptual and design differences between the woonerfs and the 30 km/h zones still need to be clarified. From a children and people perspective, we are talking about doubling the speed.

1.6   2000: the urban yard

In 2002, the inner part of the historical city centre of Delft, a 30-km/h zone, was turned into a kind of pedestrian zone, where cyclists and some cars are allowed. The entrance of cars is controlled by hydraulic bollards. Pedestrians use the whole width of the street. Traffic at moderate (less than 15 km/h) speed should not hinder these pedestrians. One could say that in effect this area is now a kind of woonerf, or better stadserf (urban yard). Within this area a great amount of bicycle racks is available to park your bike most of the times in front of your shop. Only a few hours of the week, depending on the weather and local activities, some streets are hard to walk through and keen cyclists should walk or better look for alternatives. The general interaction between pedestrians and cyclists can still be improved when the behaviour rules of the current regime are better explained to the different parties.

The outer part and the other half of the historic centre remained 30 km. In these streets lots of isolated 'stoeps' are still present and quite often decent sidewalks are absent. The position of pedestrians and in particular children in these areas is rather weak and marginal. It is another interesting example of the shared street concept, explained further in part 3.

2.   Child friendly streets to facilitate independent mobility.

2.1   Independent mobility, Miffy on the bike

Independent mobility is the right and the possibility for children to explore and use the outdoor environment, the public space, independently.

That physical outdoor area will grow and become more complicated during and with the process of growing up of the child. It starts with the sidewalk or the 'stoep' in front of the house as on Vermeer's painting with the playing children. It continues with activities like walking to the school / neighbourhood shops and ends up as a cyclist moving around in their city. This idea is stated by 3VO, the Dutch Traffic Safety Association as follows: "Everyone, young and old, should be able to move around safely and freely, irrespective of their mode of transport. All traffic participants, road users must meet each other carefully and with respect, especially the more vulnerable ones. Independent mobility must be a right for everyone, including children.

This concept is also well described in the famous Dutch children's book of Dick Bruna about Miffy (in Dutch Nijntje) and her bike [3]. Below the first lines of the story of Miffy and the independent trip on the bike to grandmother.

'Later on when I grow up

Thought Miffy one fine day

I shall go riding on my bike

I do hope that I may'.

2.2   1960-2000: decreasing independent mobility, a recent history
Related to the enormous growth of motorized traffic, in 2005 it is not so obvious anymore, that children in The Netherlands can take their bike and ride. About 40 years ago, 1965, children in the city had much more freedom of movement than they have today. With the long cycling tradition in The Netherlands, cycling to school, for instance, has always been the normal option for children who live too far from school to walk there. Until the 1970s, children walked on their own to school from the age of 6 years old. If the distance was greater, they went by bike. Being accompanied to and from school was exceptional.

With increased prosperity and the corresponding growth in car travel, the number of traffic accidents increased so greatly that parents decided to accompany their young children to school. Young children being brought to and from primary school became the rule rather than the exception. The car became more and more used for transporting children to school and other destinations, and we speak of the 'backseat generation'. Increased traffic has meant that the average age at which children are allowed to independently cross the street has gone up from 6 years old in 1970 to 8 years old in 1993 to 8,5-9 years old in 2003 [4]. Unfortunately this trend seems to be still continuing at the same rate and cycling to school in The Netherlands is decreasing and transport by car is increasing. Information collected since 1995 by the Dutch National Statistical Office on the travel of children less than 12 year of age underlines this undesirable change in the modal split [5]. Despite rather intensive efforts on de field of traffic safety, the effect on the independent mobility of children is not yet very obvious.

Too many streets are judged unsuitable for children. As long as children have to cross main roads with big volumes of traffic, going at high speed, parents judge it unacceptable and unsafe. This leads to the development of a vicious circle on the way to school and around the school itself: children are brought to school by car because of the unsafe traffic situation and yet the cars in which they are brought serve only to increase the danger. This adversely effects the opportunity for children to cycle on their own to school, especially the children who do not (yet) come by car.

Beside the creation of unsafe traffic situations around the school, there are other drawbacks of car use for bringing children to school. When children do not cycle daily, in the beginning under supervision of an adult, they do not get the necessary practise to learn how to cycle properly in traffic. So car use causes children being brought longer. For the children there are also other consequences: If children are always brought to school and other destinations, they miss the chance of having spontaneous contacts, to walk or cycle home with their at that moment chosen friends, to stop and play somewhere or do something on the spur of the moment. They cannot figure out things for themselves, experience adventures and they do not learn to solve problems they meet on the way. For the backseat child, everything is planned.

This is becoming a common phenomenon, as more and more children are made dependent on the car of their parents. The child's possibilities of movement are dependent on the possibilities their parents can or want to give [6]. Adults plan the lives their children live, and the fact that the children are always escorted, as a matter of course, keeps them passive, small and dependent. This has a major impact on their psychomotoric development.

2.3   Some statistics about CIAO!

Children Independent Active Outdoors from CBS [5] and SCP [7]

School trips are still mainly by foot or with the bike [1996].

Traffic mode	%
Walking	42
Cycling	32
Bike passenger	9
Car passenger	15
Miscellaneous	2

School trips are the most important kind of trip for children, however it only makes 30% of the total amount of daily trip.

Purpose of trip	Number of trips per day	%
Visits	0.47	
Shopping	0.58	
School	1.09	30
Recreation	0.66	
Miscellaneous	0.85	
Total	3.65	100

Most kilometres children make on the backseat

Traffic mode	Km per day <=12 years	Km per day 12 < years <=15
Walking	0.6	0.4
Cycling	1.5	6
Car passenger	13.4	9

A recent survey of SCP [7] showed that for children between 5 and 12 most play nearly everyday outside (67%) or a few times a week (27%). Below some facts about the location they use.
It is shown how important the streets and the squares are as playing area.

Garden	58
Street before own house	46
Square / grass field in Neighbourhood	46
Play spot with equipment	30
Playing ground	18
Miscellaneous	2

About changes in the population and related behaviour, it was a someway remarkable results that people from weak social position (lower income, less educated parents or from non-Western ethnic groups) generally play outside less often than other children.

The number of children (<= 12) is 2,6 million, 20% from foreign background. In the group children between 8 and 12 years, 64% of the children do not have friends from other countries. As most children play outside, it can be deduced that the street has great opportunities for meeting.

In the Dutch Handbook Design for Children [8] the negative aspects of lacking independency outdoor activities is firmly stated as follows:
"The increasing lack of independent mobility among children may have a number of negative consequences for children themselves as well as for local authorities. Children may be adversely affected in their social-emotional development in general and experience developmental retardation in their spatial and locomotion skills.

The ability of children to be able to move around safely and independently and to safely play outside is crucially important to both the social fabric of an area and the interests of the Municipal Authorities. A prerequisite condition for the desirable situation is that there is a traffic safe environment in which children can play and that there are good quality well-planned public spaces available."

2.4   Why essential for development of children?
Independent mobility is an essential condition for a personal development of children. Hüttenmoser [9] has done research in Zurich on the effects of the public space and the development of young children. Two contrasting groups were investigated: in the first group, children from A families were raised in living surroundings in which it was possible for children to play both unhindered by street traffic and without the presence of adults. In the second group, however, the children from B families could not leave their residence unaccompanied by adults. The results show that unsuitable living surroundings considerably hinder the children's social and motor development and put a heavy strain on the parents, Unsuitable living surroundings, that is, mainly those living surroundings dominated by street traffic, prevent the development of lively neighbourhoods capable of mutual help.

Children who are limited in their independent mobility fall behind in their personal and social development in comparison to children with more freedom of movement [10]. Tree different aspects can be recognised:
1. Social development: If a child is not every moment under supervision of an adult, he is more free to make his own contacts, with his own chosen friends or with other children he meets by chance. In such situations, he can figure out things with others, quarrel and (be forced to) learn to solve problems. The ability to adapt new situations teaches children self-reliance.
2. Physical and motor development: playing outside is very important for the motor development of children. It is natural that their action radius becomes larger with age. Too often unsafe traffic conditions restrain children in their possibilities to go where they want. But even with these restrictions, it is healthy to be outside and be active. Sufficient outdoor exercise is both healthy and necessary, according to the medical world. Children who do not exercise regularly run more risk of becoming overweight or even obese, with accompanying health risks [11].
3. Cognitive development: When children make their own 'journeys' they develop naturally a feeling of spatial awareness, a sense of far, near and farther on and they begin to understand how the world is structured. Step by step, they develop their mental map. Discovering things themselves is the best experience, and gives them increased self-confidence.

Apart from being essential for the children, independent mobility has great advantages for both parents and society. The younger children leave the backseat of their parents' car, the earlier this burden for parents to pass the day as a kind of taxi driver will decrease. Additionally, fewer trips by the parents means less congestion, less traffic hazards and less pollution of the environment. For instance, 20% of rush hour car journeys involve children being transported to school [12]. If children become independently mobile, the need for the parental taxi services reduces. Moreover, it will contribute to a more liveable city with a higher quality of life.

2.5   Benefits for parents and society

Based on this research Hüttenmoser argues that we should fundamentally rethink the situation and not only think about traffic safety of children but we should additionally promote the quality of life and healthy development of children. If we want healthy kids we need to regain street territory for them in residential areas. Into the 30 km/h zones we have to bring 'home-zones' (like Britain says) or 'meeting-zones' (like the Swiss say) where children are able to play with other children - more or less safely. These zones need to be designed in such a way that cars can barely come there, and those that do enter drive slowly. Traffic measures alone are not enough. In Switzerland, as elsewhere in Europe, there are fewer children than in the past. They live in isolation, not coming out of doors unless there are other children. This lack of kids has to be compensated in an appropriate way. The Swiss meeting zone can be one of the solutions.

2.6   Meeting zones in Switzerland

The meeting (Begegnungs) zone concept is one of the results of a pilot project started in 1995 in Burgdorf (www.modelcity.ch), in the German speaking part of Switzerland, north east of Bern. In that pilot possibilities to reduce motorized traffic in favour of walking and cycling were tested. Based on this successful pilot the meeting zone was formally introduced in 2002, offering speed 20 areas in living, shopping and rail station districts and giving priority to pedestrians. A slightly adapted erf-sign is used with the maximum allowed speed added. This opportunity is used and promoted in several cities (Bern, Zurich, Geneva) in Switzerland. The rules are identified and if citizens of a street comply those rules, they can apply their municipality. Compared to the standard European sign, the addition of the maximum speed can reduce confusion and improve the clearness.

2.7   The network Child Friendly Cities

The focus on children and the public space is widely supported by the new network of Child Friendly Cities. The Child Friendly Cities Initiative (CFCI) was launched in 1996 to act on the resolution passed during the second UN Conference on Human Settlements (Habitat II) to make cities liveable places for all; in UNICEF terms, for "children first." The Conference declared that the well-being of children is the ultimate indicator of a healthy habitat, a democratic society and of good governance.

During the first European conference in Bruges in 2002, we could introduce the position of children during independent outdoor activities like playing and biking [13].
The second European conference in London in 2004 was attended by 200 delegates from 26 countries. The final resolution [14] declared that
•   children living in urban areas today have increasingly less access to space, that there is a continuous reduction of their independent mobility particularly in big cities and that they experience less safety in their living environments
•   spaces for children to play and possibilities of socialising are declining
•   scientific results indicate that this can lead to social, mental and physical problems in later age.

The conference participants therefore encouraged the EU member states to join their efforts in creating better environments for children and young people and in working actively in support of this goal together with the ENCFC network and other bodies dedicated to this goal.
The unsuitability of towns and cities to the needs of children and young people is not an immutable fact of life in the modern world. Infrastructure must guarantee their safety.
In Kids on the Move, a publication of the European Commission [15], a programme of actions is set out to promote mobility based on the 'children admitted' principle. Most important elements of this programme are: speed reductions, reducing the volume of traffic, streets and places for playing and meeting and independent mobility for schoolchildren as part of the programme.
The CFC public space approach makes it necessary that different professions as urban planning, traffic engineering and public green designers has to look from the children perspective. It makes it possible to bring together urban planners with often isolated forums like the bicycle network [16], the pedestrians network [17], several playground networks and the car free network [18].

A Dutch section of CFC was established in 2004 to promote cooperation in this field, in particular the position of children in the public space. This section was an initiative of the Association of Netherlands Municipalities, the foundation for child play "Jantje Beton", in cooperation with the traffic safety organisation 3VO and the professional organisation of urban planners BNSP. Several times a year, a municipality organises a day excursion to show their effort to politicians and civil servants from other municipalities. The municipality of Delft and the Dutch network work together in the Childstreet2005 initiative.

3   Acceptable unsafety

3.1   Introduction

Taking care about their children, it is common and understandable that parents want 100% safety for their children. However, related to life and growing up, parents should admit that this approach is not realistic. Incomplete safety is always an inherent part of the children environment. During the process of growing up, the children perform stepwise ever-increasing complicated task. Children should continue climbing stairs, playing racks and trees. Children should perform physical tasks, cognitive tasks, social tasks that increase in complexity. Like the parents travel by car, by bike or by air while they know that it is quite safe but not 100% safe.

After concluding that nothing in life is 100% safe, lets look at some facts about dangers of life and the not natural death causes in the Netherlands. Below the average numbers per year (figures) for the period 1996 to 2001 [5]. This numbers show that murders (social un safety) are less frequent than traffic death and that the number of non-traffic deaths (mostly accidents within the home) is far more than the number of traffic deaths.

Death cause	Absolute	%
Traffic accidents	1097	21
Non-traffic accidents	2124	41
Murder	197	4
Suicide	1526	29
Miscellaneous	253	5
Total	5197	100

At the other side, it is important to realise the difference between objective and subjective unsafety. Social safety is un important ingredient in the Miffy tool described in part 4.

3.2   Integration or separation.

Another area of discussion in the field traffic engineering is the way streets and people can best be designed to create that optimal safety.
The traditional policy to create optimal safety is triple E: engineering, enforcement and education.

In the dominant view, traffic engineers aim to structure the streets by way of separation in order to regulate traffic and other activities. Sidewalks are for playing and pedestrians, the carriageway is the territory for cars and cyclists. If pedestrians and kids want to cross the carriageway, they have to look carefully before and while crossing. Children outdoors must behave as adults. The woonerf was quite another kind of phenomenon because in this environment the different functions were integrated with dead slow speed for traffic and the right of playing in the middle of the street. Careful design should facilitate this living-together of traffic and children in order to fulfil two essential prerequisites: restrain speed and control parking.

The debate on integration and chaos on one side and separation and structure on the other side is still going on. Recently David Engwicht (Australia), Hans Monderman (Netherlands) and Ben Hamilton-Baillie (UK) [19] contributed by promoting integration, using the term shared space. These social traffic engineers want to stimulate human interaction by creating an attractive environment and to promote eye contact between people in the street, inside as well as outside cars, in order to bring about social behaviour.

In this concept, people should regulate their social interactions and solve problems of street use. Street design should support this process, the streets should be legible for traffic, the road must explain the behaviour

In the interview with Wired Magazine [20] it becomes clear that Monderman is still a traffic engineer, however from a other breed. Truly, he prefers chaos and hates signs but the end of his scope are alert pedestrians and cyclists. Too little concern for streets with playing children.

However, this new approach has certain pros, as stated by Boomen in his translated article [21]: "Fundamental to the new approach is seamless co-ordination of traffic engineering with architecture, urban design and landscape architecture. This requires a realignment of the professional institutions and design education. Merging urban design objectives with safety engineering offers an opportunity to end the absurd position which until now has left traffic engineers alone responsible for more than half the space between buildings in European cities, and often 70% of urban land in the United States. If anywhere should reflect our urban values and priorities, it should be our streets."

In this concept people are supposed to regulate their behaviour on the street by social interaction. In this way problems about street use should disappear. Thus Monderman c.s. call for the abolishment of the classic tools of the traffic engineer, such as traffic signs, traffic lights, speed humps etc. We admire his achievements in villages and small towns in the northern part of the Netherlands, where space isn't scarce. But we think that in densely built urban districts children and elderly people need more protection to fulfil the two essential prerequisites: restrain speed and control parking. In modern cities, within an anonymous, hurried, global society, people tend to speed wherever possible and the pressure of people wanting to park their cars is very high. In these circumstances counter-measures should be firm to prevent that the fittest push the other road-users out of way.

One must not forget that children and elderly people are more vulnerable in collisions. It works fine if the participants in this kind of battle are of similar strength. It that way removing priority lanes in 30 km areas is a good decision. A car with priority can always arrive at the junction. But how about mixing cars with non motorized traffic. But how about elderly people crossing the road. In that free fight on the street, the equipment is quite different. This battle could make more equivalent if motorized traffic must prove their careful habits in the street in case of an accident.
Some remarks about the abundance of street signs. It certainly could be less and better.
- "attention children" signs give mainly the alarm message that society cannot solve the problem.
- Home made "take care" signs in residential areas could work better than official signs because these are more unexpected. Neighbourhood can create their own "playing children" sign. Some formal signs, with bearings on the maximum speed, preferable indicated in a physical way at the gate of the area and parking regulations are still necessary.

- Removing signs, bollards and other street furnisher and as they call it clutter also find great support in some architecture arenas [22] as English heritage. In their effort to improve the urban quality, they see streets merely as the foreground of buildings. As explained on their website, "chaotic and cluttered streets are a symptom of a community in decline etc". It is evident that cluttered streets are not our favourite, however in the shared street model we need our chaos. In their view there exists an interesting contradiction between a liveable and creative street life and a the well designed foreground street while we hope to integrate these.

Instead of artificial traffic signs we need others. When motorists see unexpected activities, they slow down. If they see playing children with balls it will help. Should we therefore promote playing in the middle of the street in 30 km areas? But what if there are no unexpected activities in that residential street till suddenly and unexpected that boy between the parked cars running behind his ball. Are we allowed to add unexpected bollards popping up randomly and should we forbid wearing safety belts within 30 km zones? It seems difficult to realise. The problem how to add sufficient uncertainty for car drivers into 30 km or even 15 km zone is not solved yet.

3.3 Which model to select?
At the end of this discussion about realising safety and liveability, there is still the interesting point of discussion at what level we choose separation and at what level we choose integration. As a contribution to the discussion the following structure is developed. The selection between 50, 30 or 15 could be based on several aspects such as the available space (width), the amount of motorized traffic and the residential needs. We suggest the following system:

REGIME	Integration – Separation	REMARKS
Local highway	Only motorized traffic, no bicycles	No bicycles
50 km/h	Separation between motorized traffic and bicycles	Safe crossings
30 km/h	Integration of all traffic	Sidewalk for play and walk
15 km/h	Integration of all users	Residentials first

4 Recent work on child friendly streets in and around Delft

4.1 The continued integrated approach in Delft
At the VeloMondial 2000 conference, we presented a proposal for integrated policies and activities to stimulate cycling to school [23]. At the Velo City 2001 conference school surroundings to stimulate bicycle use in the Netherlands were presented. Thereafter we became involved in the network Child-Friendly Cities. The municipality of Delft supports the efforts of the CFC network strongly and some of those ideas were integrated in current municipal activities. The focus on the school environment is always useful because it brings together a vast amount of children and their parents.

Summer 2004, the municipality of Delft launched a Safe Routes for Children (Kinderen veiliger door Delft) project to make the city better usable and cruisable for children. This project will be completed at the end of summer 2005 and the tangible results will be presented during the conference Childstreet2005. The following 7 different aspects are considered.

1. Safe school-surroundings: At three pilot-schools the school-surrounding will be inspected by parents, children, teachers, police, people and companies in the neighbourhood. With a package of activities and policies the situation around the school and also routes will be improved and all participants will be more sensitive for road safety.
2. From the backseat to the bicycle: In stead of using buses to transport children from school to nursery and other after-school-activities, children from three pilot schools learn to cycle to these places. First accompanied by a traffic teacher, later on their own. The routes will be made safe, where they aren't.
3. The child ribbon is a safe and attractive route, made with children themselves, where children can walk or bike on their own along several child destinations as school, playground, activity centre, library and sport fields. There will be executed a pilot child ribbon for walking and one for cycling.
4. Website for children, parents, teachers and everyone about road safety in Delft, linked with existing educational and youth portals.
5. Cycle storage (stalling): every school in Delft must have a good cycle-store otherwise the realisation must be planned.
6. Practical road safety lessons: On two pilot schools a traffic teacher is available to go out with children to walk and cycle in real traffic.
7. Road-safety parents: Each school must have a road-safety parent. On a regular basis school parents of the different school will meet and these meetings will be supported by 3VO, the Dutch National traffic safety organisation.

4.2   A city of child friendly streets

Rethinking the street system from the perspective of children and other vulnerable traffic-participants and street users it should be realised that the system must not be planned for the average well-skilled, experienced car driver with optimal reaction speed, but must be designed for all different means of transport and for all traffic participants. This means elderly people and children too. Human beings are not only young, fit, sharp eyed and good on their legs, but also (sometimes) distracted, slow of comprehension and hardly able to oversee the busy traffic. Therefore within the whole built-up area the aim should be as a rule roads with a maximum speed of 30 km/h , with only certain roads as exceptions where a speed of 50 km/h is permitted, but only when the road has been designed safely for all traffic-participants. Streets with a minor traffic function can become woonerfs. In that way the scarce urban public space should be used by the different modes appropriately. Three kinds of 'regime' are feasible.

1. The standard situation within built-up areas should be mixed traffic on condition that the speed is effectively limited to 30 km/h with sufficient pavement space for pedestrians.
2. An exception to 50-km/h maximum, if necessary, can be permitted on condition that safe and ample facilities for pedestrians and cyclists are provided.
3. A third component are zones where the pedestrian is dominant and where children can play and have their first biking experiences. They should be within easy reach of every house and every school. Examples are pedestrian zones and 'woonerf'-like areas where cycling and some motorized traffic is permitted but only dead slow. Apart from traffic, we still need traffic free zones in our cities like sidewalks of sufficient width and playgrounds.

4.3   Experiences with the MIFFY-tool

Related to the Childstreet2005 conference and with a grant from the Hague area traffic office, we are developing a Miffy (Mobile Independent Fit Free Youth) tool to determine the quality of different kind of streets from a children perspective. Related to the three regimes indicated above, we have selected 15 different kinds of streets. We intend to describe and examine the quality for different kind of street use of children. We investigate in what way streets that are inviting and sufficient safe for playing, walking and cycling. We realise that the area children explore increases, as they grow older.

Some components of the MIFFY research are:
- Imaging street life from both car view (middle of the road in the driver position) and kid view (parallel façade, kids eye height of 1,2 m). In every street we hope to find neighbours that will offer us a friendly high window to add an aerial-view.
- We measure both number of children, adults and cars stationary in the street as well the rate of foot, cycling and car traffic.
- By measuring the width of sidewalk, carriageway and car parking facilities, we can calculate the percentages for (car) parking, traffic and for children (people) staying and playing.

Another component of the research is the description of the rate of child friendliness of streets in residential areas. The following criteria are used:
- Security and Safety, by means of inducing low speed, drawing attention to the full width of the street, getting adults to use the street and overlook it.
- Movement and Independent Mobility, by means of restraining parking, making the full width of the street suitable for pedestrians and linking the street to a system of safe and friendly routes for pedestrians and cyclists.
- Experience and Enjoyment, by means of facilitating all sorts of social activities, offering an enjoyable environment and encouraging the residents to add a personal touch.

During the childstreet2005 conference, the first results will be demonstrated and discussed with the participants. The final report is expected at the end of 2005.

4.4   Conclusions and looking forward

Thinking about the streets in our towns, it's not easy to add the children (people) view to the dominant (car) traffic view. On the local and regional level, the "Safe Routes for Children" project and the MIFFY tool are useful activities. The Childstreet2005 conference is an opportunity to discuss the subject with people from different countries and from different backgrounds in order to identify what works and what doesn't in different contexts.

The conference organisers are of the view that the street should be an important meeting zone in and for the society where different participants come together. In order to find support for the child view, pedestrians and cyclists should work together. Senior cyclists and children having their first biking experiences should realise their common interests. 50 km roads should be made child friendly. In this enormous effort to improve ever-busier towns, parents, politicians, and professionals from different disciplines should work together. During the conference we will look for solutions providing the on-street child-friendly balance between traffic and social activities like meeting and playing. This requires finding the right combination of conditions to make different kinds of traffic compatible with the needs of children.

So summing up: for many reasons municipalities should make the streets in their city child friendly.

Benefits for the children themselves playing and cycling, being independent active outdoors active are:

- they learn more than on the backseats of their parents' car
- it is healthy to be active
- it is better for their personal development

Benefits for the parents:

- the time they gain after investing time in teaching their children to be independent and to cycle

Benefits for the city:

- more attractive for everyone
- less car use, less traffic hazards and less congestion
- a liveable sustainable and safe city with a higher quality of life .

CIAO! - Children Independent Active Outdoors – in Delft

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