

Once a walker always a walker or „You can't teach an old dog new tricks": Results of a mobility study of pre-school children

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ABSTRACT

Small children play only a minor role in mobility research. Hardly any statistical data on mobility behaviour of children younger than six are available. Little is known about the mobility behaviour of pre-school children. However, personal experiences from early childhood on with respect to individual mobility shape the future mobility behaviour. In an Austrian study about the mobility situation of pre-school children, financed by the Austrian Ministry of Traffic, Innovation and Technology BMVIT carried out by FACTUM and MAKAM, detailed data of the mobility behaviour of pre-school children in Vienna and in the surroundings were evaluated. The current research work is based on the assumption that if people used to walk, cycle etc. as small children, they will more easily use these traffic modes as adults for every-day trips. The work focused on trips to and from kindergarten. The main aim of the study was to elaborate measures to convince parents of small children to move about in a sustainable manner on their way to kindergarten. Several social scientific combined methods were used in the project: analysis of existing research work; focus group interviews with parents and kindergarteners to identify barriers which prevent people from using alternative transport modes on their way to kindergarten and factors which promote the use of sustainable transport modes; a representative survey of 2000 parents in Vienna and Lower Austria to estimate the share of car trips, which could be replaced by alternative transport modes; drawings of children on how they would like to go to kindergarten, in order to get an idea of what children themselves think about their own mobility. The results of the empirical research work were presented to the experts of different disciplines at a final workshop, and the proposed measures were discussed with respect to the relevance for their implementation. The empirical research work has documented that walking is the main mobility mode on the way to kindergarten. However, one third of all trips to kindergarten in Vienna and in the surroundings of Vienna are done by car, while 50% of these trips take no more than five minutes (max. ~2km). This means that there is a high potential to replace car trips by walking on the way to kindergarten.

Authors

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Introduction

The mobility of small children is the result of the mobility behaviour of their parents. For many activities like visiting friends, going to the playground or going to the kindergarten children are transported by car. They get used to go by car as the universal transport mode from early childhood on. The car mobility has negative impacts on various areas. Children do not get to know their neighbourhood but only certain activity spots (Riemer 2003). Children starting school are often “traffic starters”, too. They are not aware how to behave in traffic safely, as they hardly experienced public space on foot. In addition, if children consider car as a “second pair of legs”, they will not consider different transport options in an objective way. A survey of 13-14year old teenagers has shown that those teenagers, who used to go by car everywhere, see car as the main transport mode in their adult life while teenagers, who frequently used bike, use also alternative modes of transportation. This means that the probability that children adopt the mobility patterns of their parents is quite high.

In the Austrian Study “GEMMA: Ways to and from kindergarten” the original assumption was that if people were used to walk, cycle etc. as small children, they will more likely use the same transport modes as adults for every-day trips. The study was financed by the Austrian Ministry of Traffic, Innovation and Technology (BMVIT) in the frame of the ways2go call and carried out by FACTUM and MAKAM Market Research. The main aim of the study was to collect extensive data about the mobility situation of young children attending kindergartens in Vienna and Lower Austria. In addition, recommendations were made how parents of young children can be motivated to use sustainable transport modes on their way to and from kindergarten.

GEMMA (“Let’s go”)

The study GEMMA was carried out in 2009 and run for one year. The research team was supported by the municipality of Vienna (department MA 10 responsible for communal kindergartens) and by Wiener Kinderfreunde a private organisation which runs about 500 kindergartens in Vienna.

Methods

Several social scientific combined methods were used in the project:

- *Analysis of existing research work:* The objective of the analysis was to outline an overview of existing awareness measures in kindergartens, which aim to change in a sustainable way the parents’ choice of transportation on the way to and from kindergarten.
- *Focus Group interviews:* Three focus group interviews were carried out with parents of small children. The aim was to collect as much information as possible about transport choices on the way to kindergarten; the reasons why certain modes are chosen; advantages and disadvantages of various modes and possible measures to promote the use of sustainable transport modes on the way to and from kindergarten. Additionally, there was a focus group interview carried out with kindergarteners. The aim to was to find out how important it is for kindergarteners to integrate the topic “mobility” in the curriculum.
- *Quantitative Survey:* 2000 interviews (both telephone and face-to-face interviews; 1500 in Vienna and 500 in Lower Austria) with parents of small children were carried out. The

questionnaires were generated from the results of the analysis and the focus group interviews. The survey was accomplished in October 2009.

- *Children's` experiences:* The project included three kindergartens. Children were encouraged to draw pictures about how they would like to come to kindergarten; what kind of transport they would prefer to use.
- *Workshop:* At a final workshop the results of the empirical research work were presented to experts of different disciplines (representatives of the municipalities of Vienna; environmental organisations, mobility clubs; traffic planners; traffic engineers; psychologists; sociologists; economists; pedagogues). The results were discussed with respect to its relevance for work in practice.

Results of the survey

Description of the sample

About 2000 parents with small children were interviewed. 78% of the interviewed persons were female and 22% male. The age range of the sample was 18 to 50. 73% were between 18 and 39 years old.

With respect to mode choice, 83% said that they walk every day, 46% used the car regularly, 39% used public transport and 12 % preferred cycling.

Traffic infrastructure in front of surveyed kindergartens

385 kindergartens in Vienna and 95 kindergartens in Lower Austria were surveyed. The interviewed persons were asked to describe the kind of traffic infrastructure they typically encounter in front of the kindergarten. Figure 1 indicates that traffic calming measures are not a regular feature in front of kindergartens. In 53% cases no special speed limits were reported. Only in 14%, the enforcement of speed limits was supported by speed humps, road constrictions or other infrastructural measures. 19% stated that there is a cycling path leading to the kindergarten. A stop of a public transport (less than 5 minutes away from the kindergarten) is situated near-by in 89% of the cases.

What kind of traffic infrastructural measures do you have in front of the kindergarten

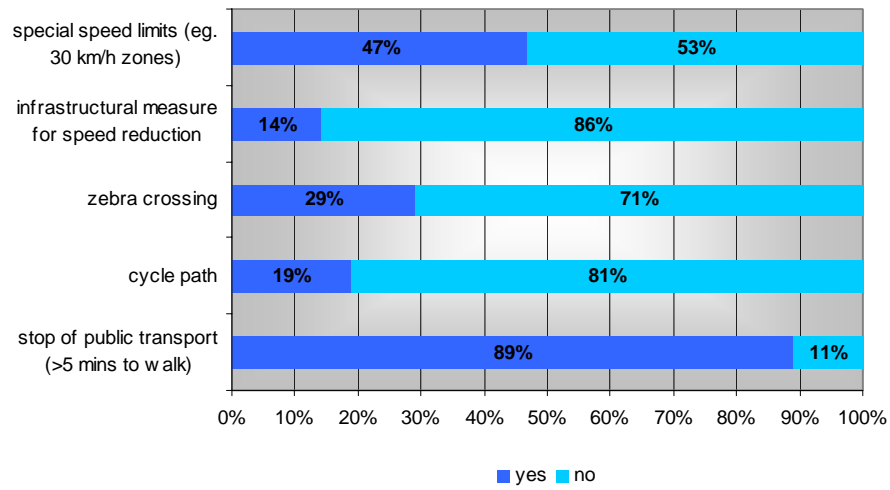


Figure 1: Traffic infrastructure in the kindergartens' neighbourhood

Mothers' job

Bringing children to kindergarten is mainly mother's job (74%). 20% mentioned that the father accompanies the child in the morning. This result reflects the typical trip purpose in Lower Austria. Whereas 11% of all trips of women are accompanying trips, men only make 5% accompanying trips (Knoll&Szalai 2005).

37% go directly back home after kindergarten, 52 % go to work, 7% do shopping afterwards and 4% do other things.

Where do you go to after kindergarten?

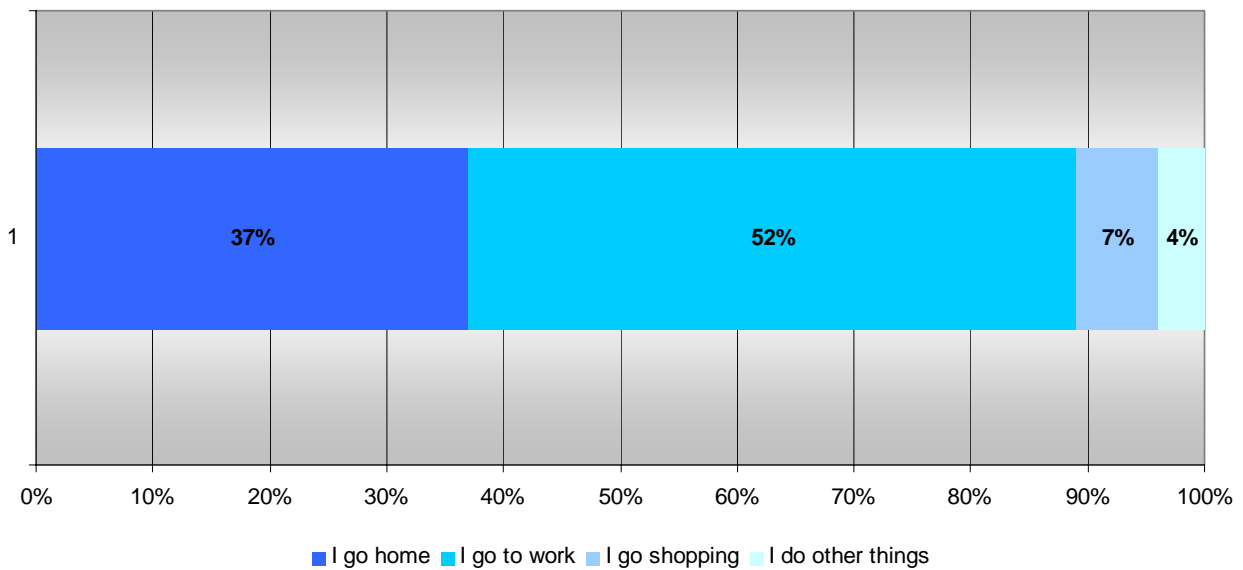


Figure 2: Trips after bringing the child to kindergarten (n= 2000)

Walking is a main transport mode

The majority of the interviewed persons walk to kindergarten with their children (48%), 11% use public transport, and 6% cycle. One third of all trips are done by car, while more men than women use the car. Similar results were achieved in a study in Karlsruhe where 950 children in 13 different kindergartens were asked on ten different days what kind of transport mode they used on their way to kindergarten. In this study, similarly, about one third (31%) came by car, slightly more than a half of the children walked (53%), 14% cycled or scootered, and 2% used public transport (Riemer 2003).

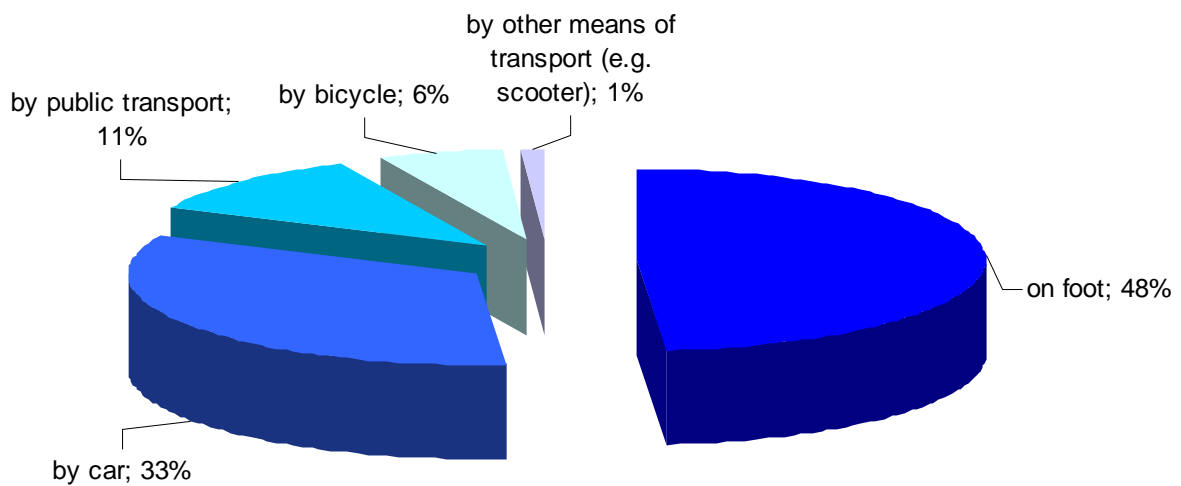


Figure 3: Modal Split on the way to kindergarten (n= 2000)

It takes an average of 9 minutes from home to the kindergarten. 45% of the interviewees need up to five minutes, 33% up to 10 minutes, 11% up to 15 minutes and 10% more than 15 minutes.

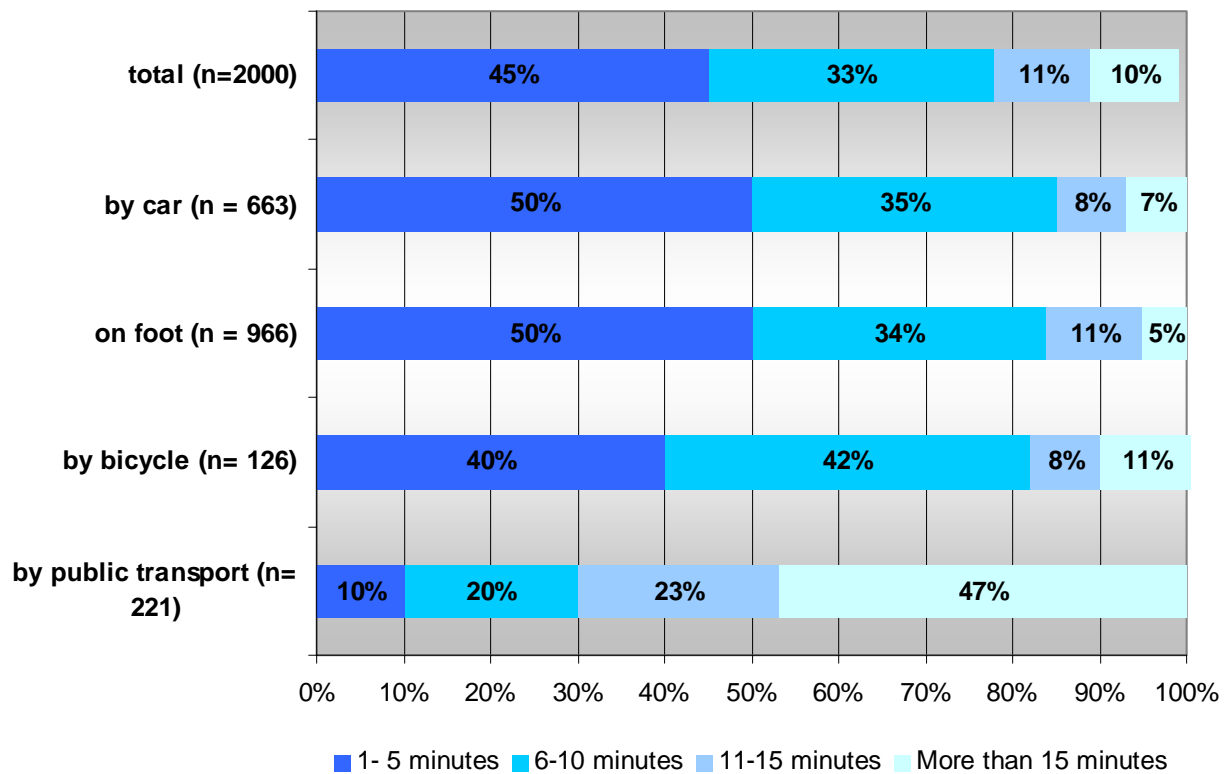


Figure 4: How long does it take to reach the kindergarten using your main transport mode? (n= 2000)

47% of the people who go to kindergarten by public transport need more than 15 minutes for the trip. **Half of the car trips take no longer than 5 minutes** (see figure 4). The majority of respondents mentioned that the main criterion for choosing the kindergarten was the short distance from home (62%). Besides, 27% of those parents who go by car go straight back home after they have delivered their children at kindergarten, and again in 50% of these cases the car ride takes no longer than 5 minutes.

Motives of choice of transport

Different motives play a role for the choice of transport on the way to kindergarten. The interviewees, who frequently walk to kindergarten mentioned that walking is fast, flexible, and uncomplicated; it's an exercise and you have fun. Similar motives were mentioned with respect to cycling, while the fun factor for the children was higher assessed. In addition the environmental-friendliness was emphasised. Using car is also associated with rapidity, you can easily resume your trip and go to other places while you are flexible and independent. Only 10 % mentioned that they have no other transport option. Using public transport is also considered as fast but 28% stated that the main reason why they use public transport is that they have no other option. How the children would like to go to kindergarten plays generally only a minor role for the parents' decision.

Table 1: Why do you use particular transport modes?

transport mode \ motives	on foot (n = 966)	by bicycle (n = 126)	by car (n = 663)	by public transport (n = 221)
fast	51%	48%	59%	46%
flexible, uncomplicated, independent	22%	18%	27%	22%
physical exercise	20%	37%	–	1%
fun for the children	10%	29%	1%	4%
you can easily resume your trip	9%	12%	43%	14%
no other option	8%	2%	10%	28%
no stress	7%	4%	9%	-
environmentally friendly	6%	29%	0%	7%
safe	3%	2%	-	4%
reliable	2%	2%	4%	5%
my child's wish	2%	8%	-	4%
unaffected by weather	1%	2%	6%	3%

How would children like to come to kindergarten?

In three kindergartens in Vienna and Lower Austria 35 children aged between four and six were asked to draw a picture or produce a collage of how they would like to come to kindergarten. The results are not representative, but give some hints about children's wishes with respect to the transport choice. Some children drew more than one mode. The most favourite mode was the scooter. 14 children would like to scooter to kindergarten. The bike appeared 12 times and the car was pictured 8 times. Five children wanted to go by bus, tram or underground. Three children preferred to roller skate.



In the study in Karlsruhe the authors came to a similar result. 57 % of the children would like to scooter, cycle, and roller skate or use other children vehicles (e.g. bobby cars) to kindergarten. 20% wanted to walk and 22 % preferred to go by car (Riemer 2005).

This is a general indication that children like active transport modes. However, as indicated in table 1, the wish of the child is for parents of minor importance when choosing the transport mode to kindergarten.

Barriers for walking or cycling

There are several reasons why people prefer to go by car, even if it is just a five minutes trip. 55% of those who did not walk to kindergarten considered walking a slow transport mode, 51% noted walking as stressful. In the focus group interviews stress while walking was associated with heavy car traffic, narrow pavements, tired children, long waiting times and short crossing times at traffic lights. Only 15% mentioned trip chains as reason for not walking to kindergarten (see figure 5)

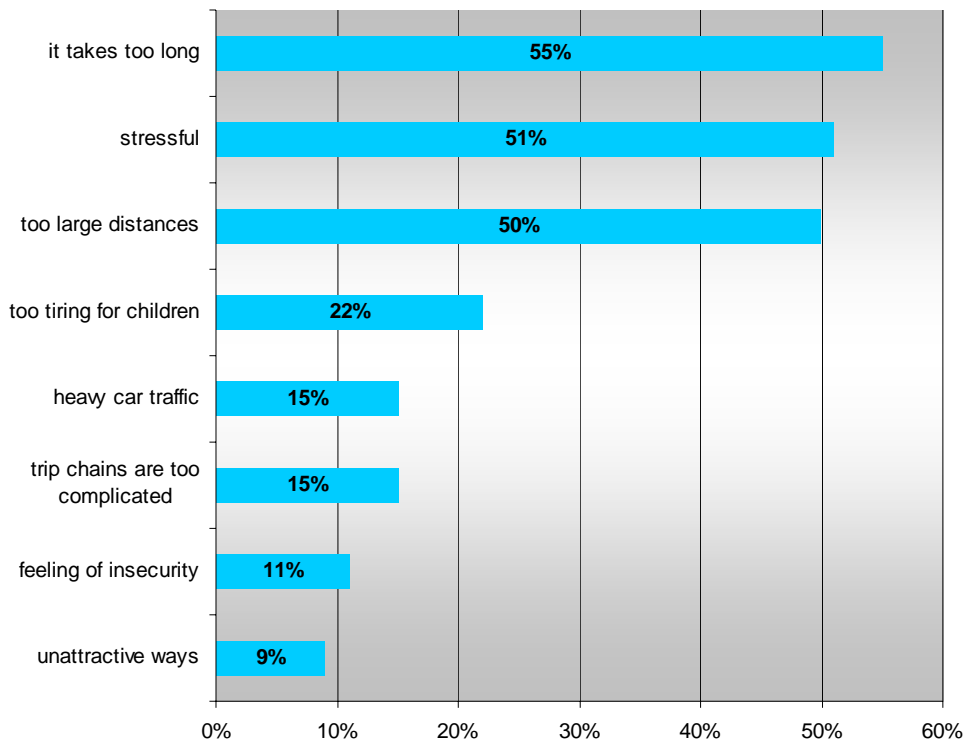


Figure 5: Reasons for not walking to kindergarten (n= 1034)

Heavy car traffic and insufficient cycling infrastructures are the main reasons why people rather go by car than cycle to kindergarten. But also the sense of stress, insecurity, and the feeling that it would take too long are seen as barriers by those who come by car to kindergarten.

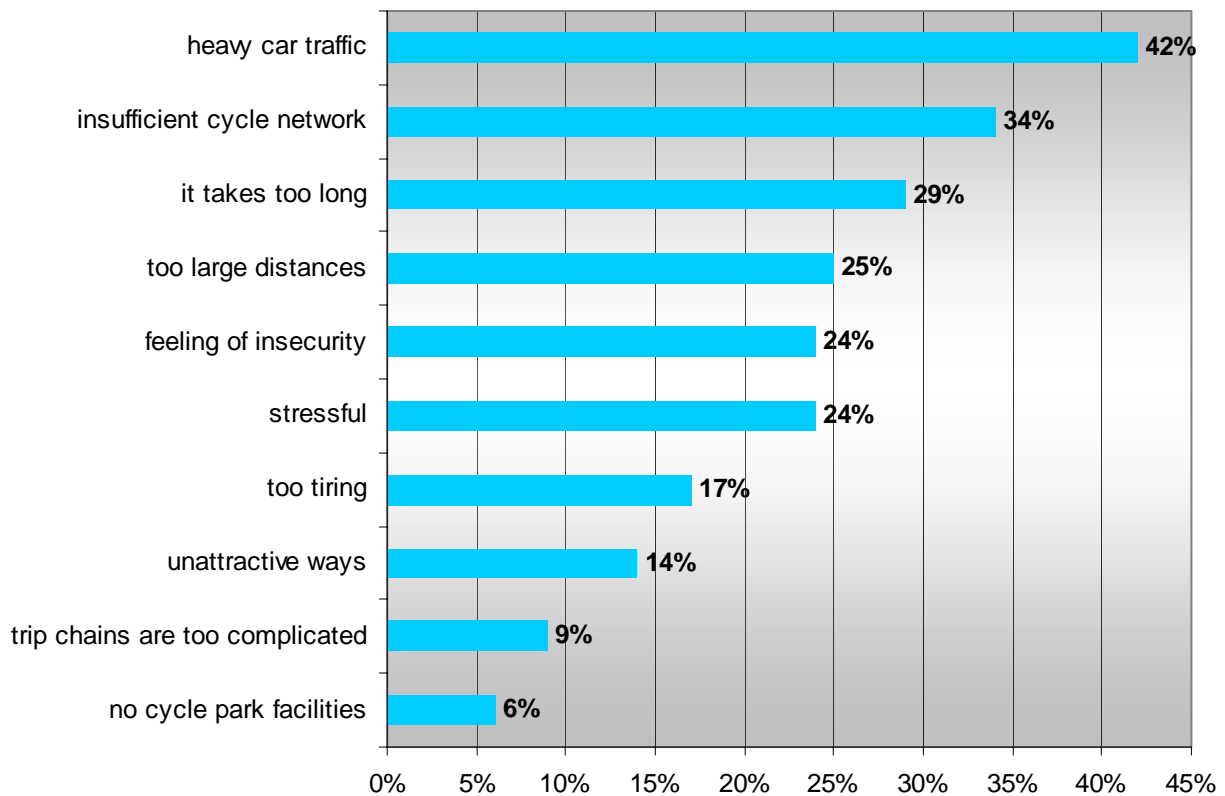


Figure 6: Reasons for not cycling to kindergarten (n= 663 car drivers)

Conclusions of the empirical results

Several conclusions can be drawn from the empirical research work.

- Traffic infrastructure in front of kindergartens seems not to be adapted to the needs of children (e.g. no special speed limits in more than half of the cases). This might be due to the fact that children are accompanied by their parents and do not walk on their own.
- It is mainly women who are responsible for bringing children to kindergarten. The mobility data still reflects the traditional role of women "Child care, that's women's business!" However there seems to be a slight change, as 1/5 of fathers takes up responsibility for "child transport".
- One third of all trips to kindergarten are done by car despite the fact that 50% of these rides take no longer than 5 minutes. This means there is a high potential to replace car trips to kindergarten by sustainable transport modes.
- Children have a great desire to exercise. They would prefer active modes on their way to kindergarten. The wish of children, however, seems not to be relevant for the actual choice of mode.
- There are different levels of barriers, which affect the choice of mode in a negative way with respect to sustainable transport mode: Infrastructural deficiencies (e.g. lack of cycling paths), personal attitudes resp. prejudices (e.g. it takes too long, too tiring) and ill preconditions (e.g. heavy car traffic, unattractive ways)

Measures and suggestions to promote sustainable transport modes on the way to and from kindergarten

In the focus group interviews as well as in the expert workshop several measures were suggested; those should on the one hand make walking and cycling more attractive and on the other hand inspire parents to use sustainable transport modes.

The measures suggested range from infrastructural and legal to awareness raising and technical measures. The following table No. 2 gives an overview of the suggestions and the expected effect of these measures. Infrastructural measures are intended to increase safety, the sense of comfort while reducing the sense of stress and insecurity. Awareness raising measures should demonstrate the variety of transport modes for the children and inspire the parents to use sustainable transport modes on their way to kindergarten.

Table 2: Measures to promote sustainable transport modes

Area	Measures
Infrastructural measures	<ul style="list-style-type: none"> ▪ Area wide 30km/zones in front of kindergartens – enforcement of speed limits should be supported by constructional measures (e.g. speed humps) ▪ Broadening of pavements in front of kindergartens ▪ Improving the cycling infrastructure near kindergartens (e.g. separation of cycle paths and pavements, interlinked cycling network, providing cycling parks in front of the kindergarten) ▪ Installing pedestrian-friendly traffic lights near kindergartens – short waiting times, child appropriate crossing times
Awareness measures	<ul style="list-style-type: none"> ▪ Shaping of public space by children e.g. colouring walls in the surrounding of kindergartens. ▪ Introducing mobility days in kindergarten for children and parents (e.g. cycle competitions, rental of pedometers: who walks the longest way to kindergarten) ▪ Focusing on role models: famous people advertise in classical campaigns that they walk, cycle etc. to kindergarten with their children ▪ Flee markets and file sharing networks enables social unprivileged people to buy bikes for an affordable price. ▪ Promoting educational programmes for kindergarteners focused on mobility issues. ▪ Inviting external mobility experts to provide support to kindergarteners, when talking to children about traffic & transport issues
Technical measures	<ul style="list-style-type: none"> ▪ Deactivating mobile phones near kindergartens ▪ Telematic speed report in cars in case people drive too fast in front of kindergartens

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