

German Examples of Safer Routes to School

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Introduction

In 1970, Germany showed the highest European traffic death rate in children. For every 100,000 children under the age of 15 years, 15.3 were fatally injured. This was the beginning of many community safety oriented campaigns to prevent traffic injuries in childhood throughout the country. From 1970 to 1997 the overall German death rate of children in traffic decreased from 15.3 to 2.3 each 100,000 children (- 85 %) and the number of severely injured children went down as well (- 65 %). Only 10 % of the fatal accidents happened on the routes to school (age 10 - 14 : 63 %, 6 - 9 : 30 %, under 6 : 7 %; Transport: pedestrians 52 %, bicycle 21 % , Bus 12 %, car 7 %, others: 7 %).

Most German primary school children (age 6 - 10) walk to school (75 %), 10 % use the public transportation or the bicycle, and 15 % are driven to school by their parents. Most secondary school children (age 11 - 15) use the public transportation (summertime 20 % - wintertime 40 %) or the bicycle (wintertime 20 % - summertime 40 %), 20 % walk to school and 10 % arrive at school by car (Limbourg et. al., 1996, Flade and Limbourg, 1997). The most frequent traffic injuries on the route to school were bicycle related (66 %), followed by the pedestrian injuries (16 %). The public transportation and the school busses are quite safe: only 9 % of the traffic injuries were bus, tramway or train related.

Children's problems and fears in traffic

As in Denmark (Odense, 1989) and Austria (Michalik, 1992), we asked 1,347 primary school children in the City of Essen (Limbourg et. al., 1996) and 1,185 secondary school children in various German cities (Darmstadt, Bottrop, Oberhausen, Bielefeld, Hamburg, Münster, Flade and Limbourg, 1997) to tell us of their problems and fears on their routes to school. More than half of the children (52 %) could name one or more dangerous spots on their way to school and 25 % already had one or more traffic accidents. Between the different cities there were big differences in the subjective feelings of danger and safety and in the number of reported accidents in traffic. These differences could be related to the traffic environment in the cities (good walking, cycling and public transportation possibilities were related to less fears on the routes to school).

The main fears of children on their routes to school were related to the high speed of cars, the high traffic density, to car drivers not carefully turning right or left, to drivers who don't stop at zebra crossings, to cars parked on pedestrian and cycle paths and to the lack of possibilities for safe crossing (Limbourg et al., 1996, Flade and Limbourg, 1997).

In a recent German drawing contest titled "If I were minister of transport..." (Limbourg and Reiter, 1998), 10,000 children (age 6 - 13) from all over Germany drew pictures about their

wishes for improvements in traffic. The pictures were analyzed at the University of Essen. The most frequent wishes were:

1. safer crossing possibilities
2. better possibilities to play on the road (traffic calming)
3. safer conditions for walking and cycling

The results of our research work were similar to the research results in Denmark and in Austria (Schelling, 1996, Michalik, 1992).

Traffic injury prevention on the route to school

The most effective strategy for traffic injury prevention on the route to school is the combination of the following approaches (Gliewe and Schmid, 1997, VDS, 1995, Limbourg, 1994, 1995 and 1997):

1. Traffic engineering

In order to prevent traffic injuries on school routes it is necessary to change the design of the urban road environment (child oriented traffic environment, Hillman, 1992, Sustrans, 1994, Björklid, 1992, Michalik, 1992, Limbourg, 1994 and 1997):

- Speed reduction from 50 km/h to 30 km/h on all school routes
- Traffic calming approaches in the school areas
- Safe crossing possibilities for children
- Traffic lights with short waiting times for pedestrians
- A clear view between car drivers and children (without obstacles)
- Safe pedestrian paths
- Safe cyclist paths
- Safe bus stops

2. Mapping the safest routes to school

The primary and the secondary schools should hand out to their pupils (and their parents) a map with the safest routes to school for pedestrians and cyclists. The parents should be encouraged to teach their children the safe use of those routes to school (VDS, 1995).

3. Traffic law enforcement

The traffic laws related to the safety of children on their school routes should be enforced by the local authorities (police, traffic department):

- speeding laws
- parking laws
- use of safety belts and children's restraint systems in cars
- cycling laws

4. Use of protection devices for children

Children can be protected on their routes to school by different technical devices:

- Children's restraint systems in cars
- Safety belts in school busses
- bicycle helmets
- safe bicycles
- reflecting school bags and coats

5. Road safety education

Safe pedestrian behaviour on the route to school should be taught by parents and teachers at the end of the preschool time (Kindergarten) and at the beginning of the primary school. The route to school training should take place on the road, in real traffic situations (no less than 10 times). The police can be helpful at that time. In order to get practice in traffic, children should not be driven to school by car. Walking is very important for the road safety learning process in the primary school time.

Children should not cycle to school until they get their cycle training at the age of 9 to 10 years. After this cycle training they must have a new school route training with their bicycles - the cycle routes to school may be different from the pedestrian routes.

In the primary school time children should learn the safe use of public transportation as well.

At the end of the primary school the children should learn the safe behaviour for the new route to the secondary school (as pedestrians, cyclists and public transportation users).

6. Crossing patrols

Children, adolescents (up from 11 to 18 years) and adult volunteers can help younger children to cross the roads on their way to school (Austria, Germany).

7. Parent information

Parents should get informations about the following topics:

- Age related abilities of children to cope with different traffic situations as pedestrians, cyclists and public transportation users
- Injury risk factors (gender, personality, traffic environment, etc.)
- Road safety education in the family
- Safe routes to school
- Protection devices for children
- Traffic injury prevention

8. Car driver information

Car drivers should get information about the behaviour of children in traffic at colleges and driving schools (Film for driving schools „Mammamia”, 1998). Television and radio public service announcements can inform the driving population as well.

German Examples of Safer Routes to School

City of Essen (600,000 inhabitants)

The City of Essen and the University of Essen (Traffic Education and Traffic Psychology Department) have been working together since 1992 in order to improve step by step the safety of children on their routes to school all over the city (Limbourg et. al., 1997).

Procedure:

1. Step: Mapping the children's traffic accidents (pedestrians, cyclists) all over the city since 1990.

With the help of this accident map the most dangerous school areas in the city can be identified.

2. Step: Assessing the fears of children on their route to school in the city.

In order to assess the fears of children on their routes to school we applied a questionnaire to primary school children (n = 1,347) 8 to 10 years old. The fears of children on their routes to school were related to the high speed of cars, to car drivers not carefully turning right or left, to the cars parked on pedestrian and cycle paths and to the lack of safe crossing possibilities.

3. Step: Traffic conflict observation of children on their way to school.

Students of the University of Essen were trained in the application of the traffic conflict method. They had to observe the children on their routes to school and assess the danger of the traffic conflicts with cars, busses, tramways and bicycles on a rating scale:

no danger at all 0 - 1 - 2 - 3 - 4 - 5 traffic injury

In addition we assessed the children's and driver's behaviours and the road environment characteristics (crossing possibilities, traffic lights, speed limitations, traffic calming elements).

Of the 6,982 observed traffic situations, only 60% were considered “completely safe”, 40 % of the situations showed some danger and 6.5 % of the observed situations were considered **very dangerous**. No accidents were observed. The highest risks of danger for the children were: the result of car's speeding, unsafe child's behaviour, lack of safe crossing possibilities, long waiting times at traffic lights, lack of bicycle paths, no traffic calming approaches, poor road safety education in families and schools, bad model behaviour of adults and no enforcement of traffic laws (speed, parking).

4. Step: Improving the safety at the dangerous school way places

The city government, the police and the schools are improving step by step the safety for school children at the identified dangerous spots on the routes to schools (engineering, enforcement and education approaches).

Results: The number of traffic injuries in children (under 15 years) decreased from 436 injured children each 100,000 in 1992 to 364 in 1996. Essen shows less injured children than most of the other big cities (with more than 500,000 inhabitants) in Germany.

Table 1: Traffic injuries in childhood in big German cities in 1996

Cities with more than 500,000 habitants	Injured children in traffic each 100,000 in 1996
Stuttgart	305
München	309
Nürnberg	320
Essen	364
Frankfurt	382
Leipzig	409
Berlin	433
Duisburg	433
Bremen	439
Hannover	445
Düsseldorf	449
Hamburg	449
Köln	451
Dortmund	460
Dresden	494

Safer Routes to School: The ADAC City Competition

For 35 years, Allgemeiner Deutscher Automobilclub (ADAC) has organized competitions for cities and communities under the general theme of "Safety for Pedestrians and Cyclists". Traditionally, the patron of such events is the Federal Minister of Transport. Co-sponsors are the German Traffic Safety Council (DVR), the German Traffic Watch (DVW), the Federation of German Cities and the Federation of Cities and Communities.

According to a five-year schedule, all German cities over 5,000 inhabitants are polled on their activities such as "safety on the way to school". The winners of the Federal competition receive a certificate and a plaque and will be invited to a trip into one of the neighbouring countries (ADAC, 1998).

Winners of the year 1997:

City of Griesheim (23,000 inhabitants)

The so-called "**stops for parents**" are based on the project entitled "alight one stop earlier", which Griesheim carries out in cooperation with Prof. Bernhard Meyer of the Polytechnic College of Darmstadt.

It is the purpose of this project to adapt children to road traffic at an earlier age, and on the other hand, involve them more actively in road traffic measures of Griesheim. This approach has made it possible to integrate the requests from children to the greatest extent into the road traffic building and engineering plans of the city.

The purpose of stops for parents is to avoid a "door-to-door" transport of children that are taken to kindergarten or school in a car. Often, the situation in front of kindergartens was chaotic because parents were parking all over the place.

Usually, the stops for parents are at the nearest intersection/entry from the relevant kindergarten/school. From there children are supposed to proceed on their own. The paths that children cover independently were made safer by various methods (e.g. redesigning measures to form a traffic-controlled area, narrower streets for easier crossing).

In addition the paths between the stops and the kindergarten were equipped with various play devices to make them more attractive for the children.

City of Marktredwitz (19,000 inhabitants)

Protecting the way to/from school by an efficient **service of school crossing patrols** is undeniably the best measure to avoid accidents involving school children, particularly in black spots.

In places where school crossing patrols - i.e. older pupils - cannot be used, it is necessary to find motivated adults with adequate experience and education in road traffic for this task.

First of all - and this was the case in Marktredwitz too - the parents come to mind, of course. But particularly during the times in which children are on their way to school, fathers, and increasingly mothers, go to work. And indeed, less than 20 % of school crossing patrols are parents.

Hence advertising focused on groups of persons that both had the time to perform the task and could relate to the children. First of all grand-parents were hired, then the services of other retirees and early retirees were used.

The danger spots on the way to school, starting with the school centre itself, were located and the times of protection (7.15 to 8.00 hrs and 11.15 to 13.15 hrs) were fixed. With the possibility of independent division in hourly, daily or weekly intervals and the organization of short-term substitutions, the strains on the individual were reduced and the willingness to participate increased.

Apart from the success in the area of safety on/from the way to school, these groups of persons in particular, experience personal advantages. Dealing with children, the feeling that

someone needs them and that they are respected and appreciated create a motivation that can hardly be surpassed.

This feeling of togetherness and self-respect is reinforced by a host of measures that again create incentives for other persons to join the programme.

Apart from an adequate expense allowance and provision of uniform equipment, the school crossing patrols attend, in addition to their own meetings, all events organized by the town administration. Like employees of the town, they participate in outings, Christmas parties and staff meetings. They are sent separate invitations to public events and receptions. At school level too, they are involved by the school board, the teachers and the parent representatives. Assistance from adult school crossing patrols gives children a feeling of security. They form an important emotional bond for children on their way from their parents' house to school.

City of Hoyerswerda (58,000 inhabitants)

Main features of safeguarding the way to school:

1. Traffic organisation and traffic rules

Arrangements of pedestrian crossing points by

- improving visibility between driver and pedestrian
- safeguarding crossing points by extra traffic lights for pedestrians
- traffic reduction
- avoiding through traffic
- speed limits
- constructing pedestrian islands
- narrowing roads
- increasing the safety of bus stops
- constructing underpasses
- improving street lighting

2. Information and education

- annual edition of school informations for parents and school way maps
- public relation work with press and TV
- registration and analysis of traffic accidents in childhood
- traffic education at kindergarten, primary and secondary schools

3. Traffic observation and traffic law enforcement

- crossing patrols (parents, grandparents)
- speeding law enforcement
- traffic observations

German public transportation schools

In most German cities the public transportation companies offer safety education programmes for the kindergarten, primary and secondary schools (Limbourg, 1997). The company teachers

go to the schools with a bus and teach the children how to use the bus, the tramway and the subway safely.

Two of the companies participated in the ADAC-contest and won a price for school way safety (Autokraft, Kiel and VRR, Gelsenkirchen). Most German transportation companies send their programmes to the British Ministry of Transportation, some with a short description of the programme in English.

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