Background

A large majority of traffic accidents are caused by speeding cars, and cars are major contributors to noise and air pollution. Investigations have showed that a speed reduction of 1.0 km/h can give a reduction in accidents with personal injuries of about 3.0%. Therefore, one of the most important objects of road safety work is to reduce car speeds.

The general speed limit in Danish urban areas was reduced from 60 km/h to 50 km/h in 1985. This change resulted in lower speeds and therefore also fewer accidents, although speed measurements in the subsequent years showed a low universal adjustment to the new limit. Speed measurements still show high speeds on all kinds of roads and the police have too few resources to control the car speeds. Therefore automatic speed control has been introduced in Denmark.

Where and when?

The pilot project is carried out in two areas in Denmark. The biggest control zone is the metropolitan area of Copenhagen incl. the municipalities of Frederiksberg and the municipalities Gentofte and Gladsaxe north of the metropolitan area. On the island of Funen the city of Odense, a town called Svendborg and some smaller villages are control zones.

The pilot project started at the 6th of April 1999 and will be finished at the 1st of April year 2000.

Description of the System

The system is mobile. The control equipment is placed in the back of a van. This gives the police the possibility to move the equipment between several spots during the day. A police officer is sitting in the car while the control is going on to reduce vandalism and because the van is moved after only one hour of control.

A spot for speed control is chosen from a list of roads, where many accidents happen. The list is made from the accident statistics in co-operation between the police and the municipality in question and the Road Directorate.

The police officer drives the van to a chosen spot on the road network. At the spot a radar measures the speed of the cars that drive by. If a car is speeding, the camera takes a picture of the car showing the licence plate and the face of the driver. The place of the passenger seat is erased. Therefore it is not possible to see if there is someone sitting next to the driver. The picture also shows information on the speed of the car, the speed limit
at the spot, where the spot is, date, time of day and the identification of the police officer. When the police officer is back in the office, the film is developed, digitised and entered into a computer for further casework.

New software has been developed for casework. With this software, clerks at the police office, make quality control on the picture and enters the registration number of the car into the computer. Then the software automatically finds the name and address of the owner of the car, and sends a letter to the owner including the picture. In the letter the owner is told to phone or fax to the police and tell who was driving the car at the time mentioned. The owner can see who is on the picture. If the owner does not react to the letter, he/she will be contacted by the police by phone or paid a visit. When the police has got the name of the driver, the driver gets a fine corresponding to the driven speed.

The police are in charge of the casework.

**Information and campaigns**

An important part of the project is information and campaigns directed directly to the affected groups. At the beginning of the project, the involved municipalities in co-operation with the Road Directorate put up signs at the control zones reminding the drivers of the control. Leaflets where made and sent out to libraries, petrol stations, police stations and municipality offices. An Internet homepage was made. The campaigns included advertising in newspapers and broadcasted television spots. Furthermore the press has been very interested in the project and has written articles about the project throughout the project period.

The Road Directorate is in charge of the information on the project.

**Evaluation**

The evaluation of the project is based on measuring speeds at 20 chosen spots inside the control zones and 10 spots outside the zones for comparing. Preliminary results show reduction in speeds of up to 5 km/h inside the zones and no changes outside the zones. However the results are different from zone to zone. In the town of Svendborg the results show a reduction in speeds of about 3 km/h corresponding to a reduction of about 25 accidents with casualties a year. In the Copenhagen area the reduction is 1,0 – 1,5 km/h corresponding to about 40 accidents with casualties a year. But in Odense there has been no measurable effect on speeds. At the end of the project period, accident statistics, usage of the system and the technical aspects will be evaluated.

The Road Directorate is in charge of the evaluation of the project.

**Budget**

The budget of the pilot project is 45 Mio. DKr. and is divided between the Police and the Road Directorate. The Police are in charge of the equipment, the control and casework. The Road Directorate is in charge of evaluation, project management and information. The table shows the overall budget of the project.
The budget includes wages for the police and the project management.

In the project period the project management expects about 120,000 cases, which corresponds to the amount of speed cases in the whole country before the project started. On the average a fine is about 650 DKr (85 US$) corresponding to an income of about 78,000,000 (10,000,000 US$) from fines. Further more the project will result in saving lives and reduced amount of casualties, car damages, road furniture damages and environmental savings (noise, energy, pollution, etc.).

The Road Directorate and the Police are in charge of the budgeting and project management.