The National Society for Road Safety (NTF)
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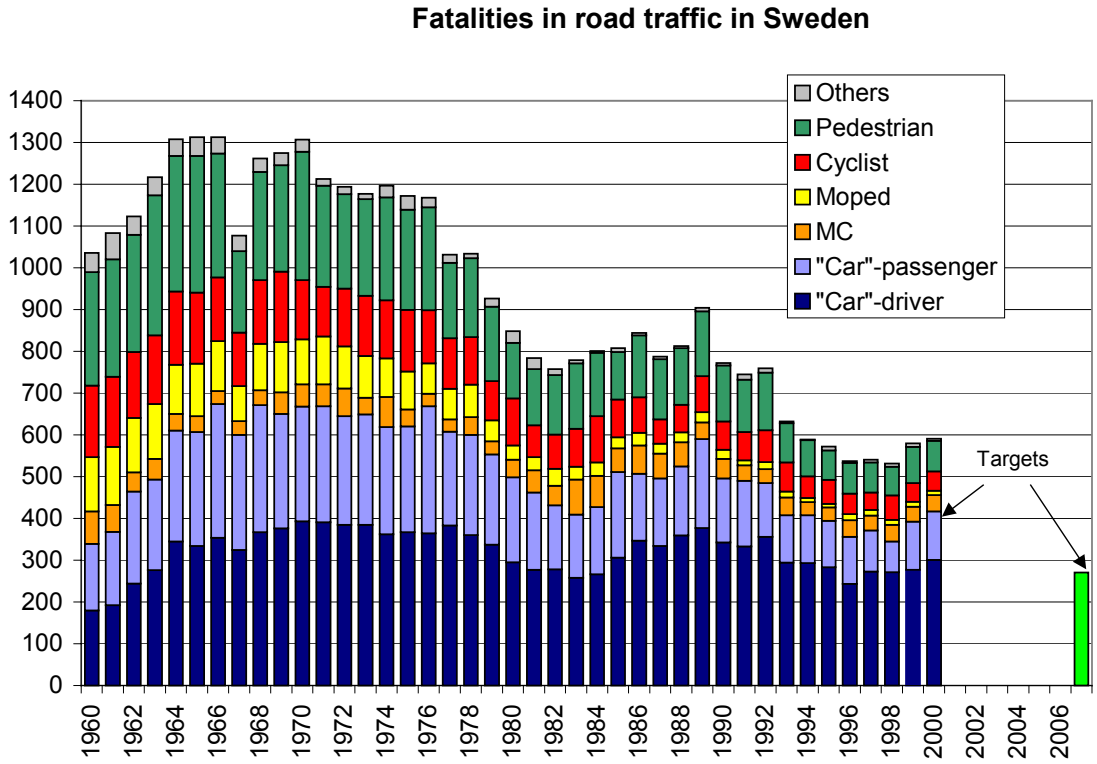
Fatalities in Swedish road traffic — an overview

The number of fatalities in traffic in 1996, 1997 and 1998 was constant at around 540 and the number for 1999 and 2000 increased to 570-590. The last 12 months the number is estimated to 580 fatalities. This creates anxiety about whether it is actually possible to realise our objective, which is 270 fatalities at the very most the year 2007.

As a basis for discussion on the way in which this target could perhaps be met, it might be useful to have an overview of previous trends for fatalities, the categories of road users who are killed, where this takes place and in very rough terms the way in which this occurs.

Previous trends for fatalities

The following figure illustrates the current situation from a longer time perspective and in relation to previous targets (400 fatalities at the very most the year 2000) and future targets (270 fatalities at the very most the year 2007).



As the figure shows, the rising trend we previously experienced during the 1950s and which continued at the beginning of the 1960s was reversed when the transition to right-hand traffic took place and, since then, the trend has been largely positive. If the figure is studied in more detail, it becomes clear that the 1970s can be characterised as the decade of traffic safety, while the 1980s was a lost decade. At the beginning of the 1990s, the trend was very positive, but, during the past years, this positive trend has stagnated and there is an upward trend.

Generally speaking, it would be true to say that the traffic system is being constantly improved as a result of a better traffic environment, better vehicles and better road users. If no general measures are implemented, experience shows that it is possible to accommodate an annual increase in traffic of 2 to 3 percent. To put it another way; if the traffic increases by more than 2-3 %, the number of fatalities increases.

Important explanations for the positive trends during the 1970s are the fact that we introduced speed limits on main roads following the transition to right-hand traffic and that we introduced seatbelt legislation, legislation making helmets compulsory for motorcyclists and moped riders and the legislation relating to daytime-running lights. The two oil crises of the 1970s also contributed to the positive traffic safety trends.

During the 1980s, general traffic safety measures were conspicuous by their absence and we were unable to accommodate the increase in traffic.

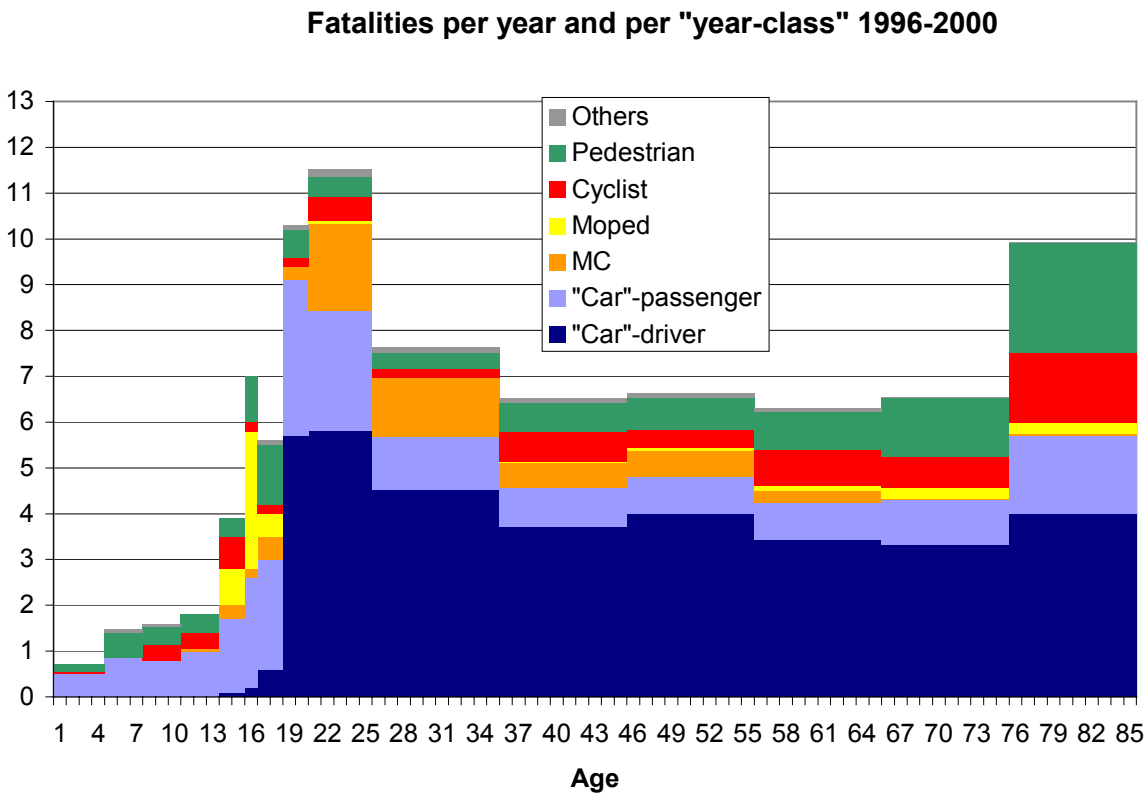
The positive trend at the start of the 1990s is primarily explained by the economic crisis, but it is probably also due to a change in the attitude of young people towards travelling by car. People are tending to delay owning a car until later in life.

The constant and possibly raising trend during the late 1990 can possibly be explained by a growing economy, increasing car ownership and the fact that some of the young drivers are coming back.

Which road users are killed?

This is also illustrated by the previous figure. Until the transition to right-hand traffic, most of the people who were killed were unprotected road users (pedestrians, cyclists, moped riders and motorcyclists). After the transition, the number of unprotected road users has declined far more than the number of motorists (the number of car drivers who have been killed has been virtually constant since the mid-1960s) and, at the present time, two-thirds of the people who are killed are car drivers or car passengers (in these lorry and bus drivers and passengers are also included, which account for around 6%).

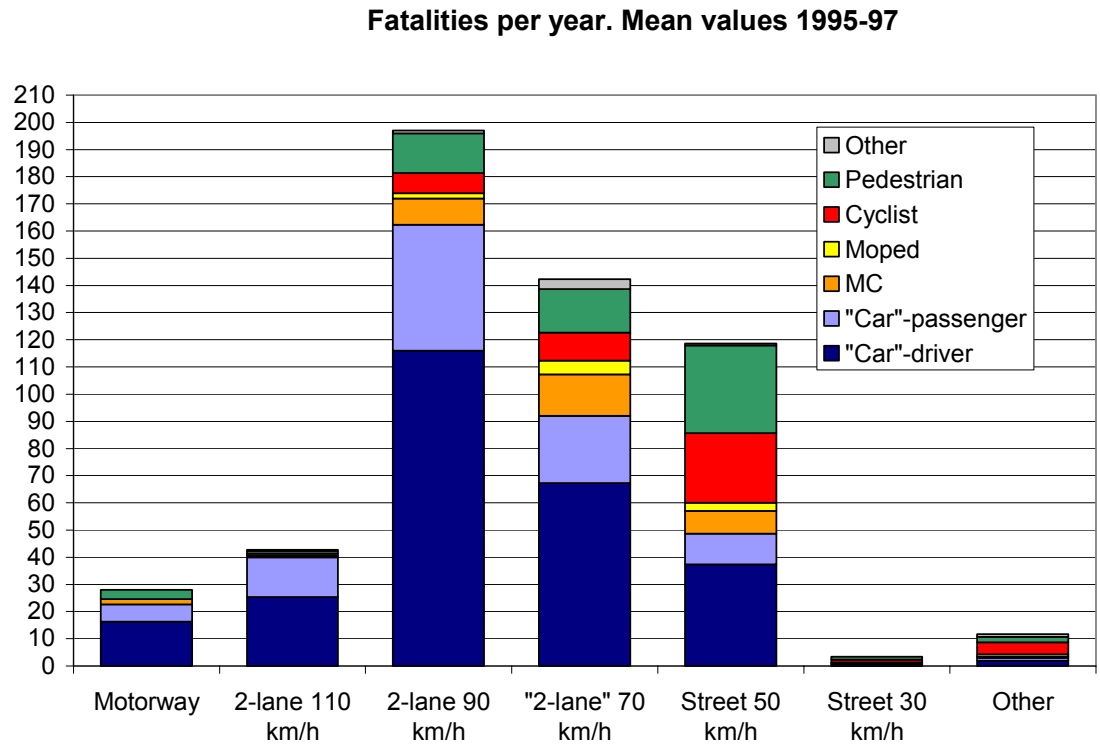
The age distribution of the people who are killed is illustrated by the following figure. The height of the bars is a rough estimate of the total risk of dying at different ages and the division of a bar shows how this risk is distributed between different ways of participating in the traffic (car drivers, car passengers, on motorcycles, on mopeds, on bicycles or as a pedestrian). The area show the total number of fatalities.



This figure shows that the risk of dying is low up to 5 years of age. It is also relatively low between 5 and 10. It then increases up to 25 years of age, after which it declines, first quickly and then slowly until retirement age when it increases again. The figure also shows that most people are killed in cars, apart from the 13-15 year age group, where most people are killed as unprotected road users. The high number of fatalities for 15 years old moped riders should also be observed. In the case of the oldest group, 40 percent of the fatalities involve unprotected road users.

Where are people killed and how?

The next figure shows the fatalities distributed between motorways and other roads with different speed limits



This figure reveals that most people die on roads with a speed limit of 90 km/h (some 200 per year), 70 km/h (around 140) and 50 km/h (approx. 120). On two-lane roads with a speed limit of 110 km/h about 40 people are killed, some 30 are killed on motorways, while about three people a year die on roads with a 30 km/h speed limit.

If the number of people who are killed on main roads on which oncoming traffic is not separated by a median barrier of some kind are added together, they account for two-thirds of all fatalities.

Of 10 people killed on these roads,

… ***four*** die in a collision with an oncoming vehicle. The most common description of an accident: ”The car came over onto the other side of the road for no known reason”. If the oncoming vehicle is a truck, fatalities are very common. In a frontal collision with a car of the same or smaller size, people normally survive, if the collision speed of both vehicles is less than 70 km/h and provided that everyone is wearing seatbelts.

… ***three*** die when they drive off the road. The most common cause of death is hitting a hard object, of which a tree is the most common. Another common cause of death is that the car turns over and people are thrown out because they are not wearing seatbelts.

... ***two*** die in a collision at an intersection. A common accident sequence is that a car that is standing and waiting to turn left or to pull out onto the main carriageway suddenly pulls out in front of another car. The person sitting in the car that is hit from the side normally dies. If they are wearing a belt, they survive if they are hit in the side by a car of about the same size and if the speed is less than 50 km/h.

... ***one*** pedestrian or cyclist who is hit by a car dies.

Also on roads with a 50 km/h speed limit, car drivers and passengers are the largest single group, even if there are more pedestrians and cyclists if they are put together. Most car occupants die at intersections, where the person who is killed is usually sitting in the car that is hit from the side. Many motorists also die when they hit hard posts or other structures along the road.

Many pedestrians die on pedestrian crossings, both with and without traffic lights. Researchers in Lund have shown that the most dangerous point at which to cross the street/road is a pedestrian crossing without lights.

Some 70% of the cyclists who are killed die in collisions with a car or some other motor vehicle. The points at which cycle tracks cross the street are typical points of danger.