

## **Pedestrians – the most important road users in the city**

All journeys begin and end on foot. In city centres a great deal of transport takes place entirely on foot. You shop on foot, go out to lunch on foot, walk between different offices, walk to the bank and so on. People walk to and from parking spaces, and some people walk to work. If you use public transport, you walk to and from the stops, or between stops if you are changing bus or tram.

In the city there are also many people strolling about, as well as tourists walking quite long distances. A city without pedestrians is no city at all.

In contrast to other forms of transport, almost everyone can walk. There are large groups who can't drive, cycle or use normal public transport. Those travelling on foot include children, the very old and those who are physically or mentally disabled. Some people are unwell or have had too much to drink. There's no way all these pedestrians can be put together with heavy vehicles that often travel at speeds that make it difficult for pedestrians and drivers to interact without conflict. An unprotected human body is simply unable to withstand the violence of a collision with a car moving at speeds above 30 km/h. At 50 km/h, around 80% of pedestrians die.

A safe city should therefore be planned on the basis of pedestrians' needs for safety, security and accessibility.

Traffic accident information is reported by the police, but unfortunately, they are not aware of all traffic accidents that occur. Therefore, since 1978 in Gothenburg we have also received reports from hospital emergency departments on any traffic accidents that the police are not aware of.

Altogether this provides an excellent picture of the accident situation. All data is recorded in a geographical information system, which provides excellent scope for analyses. This has shown that the unprotected road users, cyclists and pedestrians, were previously those who were most often killed in traffic accidents. The accident analyses show that there is a serious conflict between motor vehicles and unprotected road users in the city environment.

Fundamentally, there are just two ways to solve this conflict: to either completely separate pedestrians from vehicle traffic, or create a system where vehicle speeds are below 30 km/h at any point where there is a risk of conflict. As everyone realises, the first solution is simply unworkable in a city centre environment.

In Gothenburg the second principle has been successfully applied.

Speeds have been gradually forced down on residential streets and other streets with a high volume of pedestrian traffic, at bus and tram stops, near pedestrian crossings or other places where pedestrians often cross roads, as well as near schools.

Experience has shown that simply limiting the permitted speed using signs does not produce good enough results. Speeds only drop marginally. It requires so much monitoring that the police's resources are quite inadequate.

The method used is physical traffic-calming measures in the form of speed bumps, chicanes and other restrictions, roundabouts etc. Bus stops, for example, have been designed so that all oncoming or passing cars have to wait while the bus stops.

Gothenburg, which is a city of around 470 000 inhabitants, now has a couple of thousand traffic-calming devices that limit the speed of traffic in local street systems. In addition to considerably reducing the risk of accidents, they also mean that “unnecessary” through traffic makes for the more reliable and higher-capacity main road network, where unprotected road users are often separated from car traffic. Around half a million car journeys a day have switched from the local street system to the link road network. This has meant huge environmental gains in the form of reduced noise and fewer problems with exhaust fumes in residential areas, since these are significantly fewer along the major routes. Of all traffic in Gothenburg, 78 % of traffic, measured in vehicle kilometres, takes place on the roads that have no traffic-calming measures or where few are planned.

Unfortunately, these measures also have some drawbacks. Bus traffic can experience accessibility or convenience problems, as routes cannot be chosen freely. Fire engines and ambulances also have certain accessibility problems. In order to avoid this, if possible, traffic planners, public transport representatives and representatives for the fire service and the police meet regularly to jointly approve all proposals for such measures. Any problems that are identified are dealt with as soon as possible, while development work is in progress to find new solutions. At some point in the future we will probably have intelligent speed control devices in our vehicles to adjust our speed to current conditions. Various experiments are currently in progress at several locations across Sweden.

In safety terms, the measures have meant that Gothenburg has gone from having a reputation 10-15 years ago as a city with dangerous traffic conditions to now being regarded as one of the best in Sweden in terms of traffic safety in comparison with other large cities. During the 1960s and 70s, thirty to forty people a year died in Gothenburg traffic accidents, and some years the figure was even higher. Of these, twenty to thirty were pedestrians. During 2002, just six people died, of whom one was a pedestrian and five were motorists. These are the lowest figures since 1936, when records began.

The Traffic Board aims to cut the numbers of deaths and serious injuries to 60% of the average for 1985-89 by the year 2005. At present we can say that this aim has been achieved but that it remains to consolidate this result and move further towards the national vision that no one need die or be seriously injured in traffic accidents.