

Title: INJURED PEDESTRIANS IN SWEDEN - SURFACE CONDITION

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Abstract:

In Sweden earlier studies have shown that pedestrians are the road user group that are most injured when slippery road conditions. (Nilsson, 1986; Öberg et al, 1996). Out of all injured people during one year pedestrians were about one third of the injured people in traffic environment but when it is slippery almost two thirds (Nilsson, 1986). Compared to summer conditions the injury risk is about 6 – 8 times higher when slippery. Seniors (> 65 years old) have a very high injury risk when slippery (Öberg et al, 1996).

At bare road conditions in summer it is not so big difference in injury risk between different standard on the surface but for cyclists the accidents increase when the standard decrease. According to pedestrians this depends probably mainly of adjusting speed, way to walk a s o. So it is important not to give a false feeling of high standard. If the surface is in principle even it is important that there is no unevenness (Öberg et al, 1996).

Because of the results from earlier studies it was important to get more information about the cause of why these accidents happen. Luckily in Sweden a new accident database STRADA (Swedish Traffic Accident Data Acquisition) exists. It is a national database including injured people reported by police and hospitals and since 2003 covering the whole country and in 2009 about 70 % of hospitals with emergency treatment report to STRADA. This means that a lot of data is easy of access. In the earlier studies some hospitals were involved in the research projects and reported for the project about injured people which means less data. In this research study injured pedestrians coming to public medical service and reported to STRADA have been analyzed. Only pedestrians injured on streets, roads and foot paths are analyzed but not accidents in school or private yards, petrol stations a s o. Data from the years 2003 – 2008 gives almost 30 000 injured pedestrians.

In a wider definition of pedestrians also people using in-lines, wheel chair, skateboard, scooters and kick sledges were included. They were just about 1 000 and are not included in the following figures.

The number of injured pedestrians hit by a motor vehicle is just about 13 % of the number injured when falling by themselves (single accident). The surface condition is very important. Slipperiness caused by ice or snow stands for 43 % of the injuries and 7 % is caused by uneven surface. As much as 35 % had no cause reported. In 7 % it is reported that surface had no importance for the accident.

When looking at what time the accidents happen the most accidents happen during day time with most accidents between 17.00 and 19.00 in the evening. There is also a difference between days with less injured on Saturdays and Sundays. Looking at both time and days of the week more accidents happen in the night between Friday-Saturday and Saturday-Sunday than during other nights.

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Out of the almost 30 000 injured people about 20 000 were females and just 10 000 males. Sweden is said to have equality between men and women but at least according to walking and injured the women are in the majority and especially for middle age and old women with up to four times more injured.

Acknowledgements:

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References:

Nilsson, G. Skidding accidents – occurrence and consequences. Investigation in Östergötland County. (In Swedish) VTI report 291, Linköping 1986.

Oberg, G et al. Single accidents among pedestrians and cyclists. VTI meddelande 799A, Linköping, 1996.