

Cyclist safety in motor vehicle interactions

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Keywords: Safe infrastructure, Vehicle-cyclist interaction, Safe speed, Cykelöverfart, Traffic safety, Active speed bump, Actibump

Since 2010 an active speed bump has been used to ensure motor vehicles drive at a speed safe for crossing cyclists. This oral presentation details the effects of the system on streets with a speed limit of 30 km/h.

In Linköping city in Sweden there is a large university campus and a nearby area with a lot of student housing. In order for these students to get to the university they have to cross a road with approximately 4000 vehicles per day and 200 buses. The buses pass this pedestrian and cyclist crossing every ten minutes during the day and approximately 6500 people, of which 5 500 are cyclists, cross said road during a weekday. At 8 a.m., 10 a.m., 12 p.m., 1 p.m., 3 p.m. and 5 p.m. respectively there are approximately 500 cyclists moving across the road within 30 minutes.

Because of the frequent bus traffic and the negative repercussions speed bumps have on bus drivers' work environment the municipality could not install a regular speed bump and yet the safety of the cyclists and pedestrians crossing the road is also very important. That is why Linköping municipality decided to install a traffic safety system called the Actibump. This was the very first installation of the system but it is currently installed on eight sites in Sweden where the speed limit is 30 km/h and in total on about 20 sites.

According to Swedish law road owner is allowed to make a cyclist crossing where the motor vehicles shall yield to the crossing cyclists if there is a speed reducing measure in place to ensure the vehicles on the road drive at no more than 30 km/h. This is called a Cykelöverfart.

The aim of this paper is to prove whether or not the Actibump can be used as a speed reducing measure at a Cykelöverfart.

The methodological issues facing this study is primarily that there is no legal definition of "to ensure the vehicles on the road drive at no more than 30 km/h". Some municipalities have built a Cykelöverfart and used regular speed bumps but it has been hard to find evaluations of these speed bumps. Where there are evaluations it has been hard to find someone who is willing to say if the results obtained are seen as adequate.

We have collected data regarding the effects of the Actibump system through the software that controls the Actibump. This software collects data from the radar that measures the speed of oncoming vehicles. Data is displayed through a web interface from the start of the system and over its entire lifespan. The results we have obtained from the software is that the Actibump on average causes drivers to drive at 30 km/h \pm 3 km/h within six months to a year. Our conclusion is that the Actibump can be used at a Cykelöverfart.