

Title: COUNTDOWN SIGNALS FOR PEDESTRIANS IN GERMANY

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Abstract:

Information in digital figures about the seconds left till the changing of the signal indication to RED is wide spread all over the world. Surprisingly their effects on the acceptance of the signal control are less researched. Many examples in China, Japan, Denmark, Ireland and Turkey have been realized without any research about their effectiveness. Furthermore there are a lot of installations especially in the United States and Canada which provide pedestrians with the remaining seconds available before the pedestrian phase ends (1); in many cases they show only the time remaining to cross (2). That is a great difference to the Hamburg experiment.

Hamburg in the north of Germany is the second biggest city (1.7 million inhabitants) of the country and is ranked eight in the worlds harbour chart (7 million TEU per year). In 2005 the local government voted for a pilot project to prove countdown signals the first time in Germany. In the first step a pedestrian crossing in the Central Business District was equipped with countdown RED signals for pedestrians.

As a simplified test of effectiveness a before-and-after-study was carried out covering the following aspects: traffic volume of cars and pedestrians, delay and acceptance of the signals. The two pillar approach consists of a traffic engineering survey and roadside interviews. This is to make sure that we have data from two levels (objective by traffic counts and subjective by the questionnaires) interpreting the results. Due to the activities in the CBD (shopping, entertainment, work places) the research intervals were fixed to 11 a.m. – 1 p.m./4-6 p.m. and 8-10 p.m. Altogether 45000 cars and 71000 pedestrians crossing the street had been recorded and 760 questionnaires had been evaluated.

Behaviour in transport is embedded in the behaviour patterns of other social sectors. If the society is marked by growing individualism, self assertion, egoism and deregulation no one can be surprised to see similar attitudes in the traffic sector. That is why red-light offences by pedestrians and cyclists are widespread in Germany. Countdown signals have a significant influence on this misbehaviour. As a whole (for both directions and all intervals) the redlight-running share dropped from 21.0% to 16.7% which means a reduction of 20%. This result is very remarkable, because we know inevitable basic values about 10% referring to unsaturated flows.

The questionnaire showed first of all an increasing threshold value of the acceptable waiting times. One quarter of the sample stated a changed behaviour by the countdown signal which corresponds to the observed reduction of the red-light running. The public opinion differs a lot depending on age and sex (women agree more with the countdown signals). At least the participants rated the countdown signal as a whole. Though 29% refused the additional help very strictly, there is a clear consent.

Due to the public opinion and the traffic engineering results, the government decided in the meantime to continue with the installation of pedestrian countdown signals.

A cost-benefit analysis has not been done because the most important parameters (f. e. delay, accidents, and journey times) keep unchanged by the countdown signals. But the results show clearly that countdown indications provide enhanced pedestrian convenience and can reduce the redlight-running of pedestrians.

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