

On the usage of portable electronic devices: a qualitative study of cyclist behaviour

M. Nilsson¹, C. Englund², M. Amanuel³

¹Viktorias Swedish ICT
Lindholmspiren 3A
Göteborg, Sweden
e-mail:

maria.nilsson@viktorias.se

²Viktorias Swedish ICT
Lindholmspiren 3A
Göteborg, Sweden
e-mail:

cristofer.englund@viktorias.se

³Viktorias Swedish ICT
Lindholmspiren 3A
Göteborg, Sweden
e-mail:

mahdere.amanuel@viktorias.se

ABSTRACT

This paper investigates the usage of portable electronic devices (including smartphones, pulse watch, bike computer, music device, radio) and their effect on bicyclist behaviour and perceived experience. It is commonly highlighted that electronic device usage has a negative impact on bicyclist behaviour as they can cause distraction, leading to accidents. This paper presents a survey consisting of three parts. First of all, a market survey of the most popular devices on the Swedish market is presented to identify the categories of devices used. Secondly, an investigation based on data from the STRADA database (the Swedish national accident database) that identifies likely causes for accidents related electronic device usage. Thirdly, a qualitative interview study, capturing the subjective experience of bicyclists. A grounded theory approach is used for the analysis of the data collected. This means that data are compared and common themes are identified across the material. The study identifies three groups of user of portable electronic devices (athlete, commuter, casual). The most common applications used relates to training (18), service (5), and entertaining (2). The study further identifies that it is more common with less severe accidents than those with deadly outcome. The study further identifies strategies used to minimise the possible negative effect of portable electronic device use. The current use and strategies identified may be an explanation of the relatively low accident rates that can be contributed to the portable electronic device usage.

Keywords: portable electronic device usage, visual distraction, accident.