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## Controlled Experiments to Derive Walking Behaviour

Winnie Daamen and Serge Hoogendoorn  
Faculty of Civil Engineering and Geosciences  
Delft University of Technology  
Delft  
The Netherlands

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### Abstract

To assess the design of walking infrastructure such as transfer stations, shopping malls, sport stadiums, etc., as well as to support planning of timetables for public transit, tools to aid the designer are needed. To this end, microscopic and macroscopic pedestrian flow models can and have been applied. To calibrate and validate such models, as well as to gain more insight into the characteristics of pedestrian flows under a variety of circumstances, very detailed pedestrian flow data are required. This is why Delft University of Technology has recently carried out experimental pedestrian flow research.

This paper describes the experimental design (determination of process variables, measurement set-up, etc.), the resulting microscopic pedestrian data, as well as some first results for the narrow bottleneck experiment. Both microscopic and macroscopic characteristics of pedestrian flows are presented. Interesting first results pertain to the way in which the narrow bottleneck is used under saturated flow conditions, and the use of the space (or rather, width) upstream of the bottleneck in case of congestion.

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