WALKING AND STOPPING OVER TACTILE PAVING

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Purpose of the Study
Blister Tactile Surface Warning Indicators have been installed across the world to warn people of the proximity of the edge of platforms and pavements and other potential hazards. As such they are an essential safety aid to blind and partially sighted people. However, as is often the case, what benefits some people, creates a problem for others. For example, the IDGO consortium has reported from interviews that elderly pedestrians raised their dissatisfaction with having Blister tactile paving ‘everywhere’ (IDGO 2010). To achieve maximum benefit and minimum negative impact a number of features need to be understood better. There are a number of papers on the efficacy of tactile paving including some analysis on the length of surface required to allow safe detection and stopping distance (Pavlos et al. 1985; Peck & Bentzen 1987; Sueda 2000; Ståhl et al. 2010; Childs et al. 2010). Yet in practice, there is wide variation in area covered by blister tactile surfaces in streets around the world, and even within individual local authorities. This work is intended to bring together the work on length of blister tactile surface required to accommodate stopping distances along with an experimental approach to validate the reported stopping distances.

Approach
The literature on tests of stopping distances on blister tactile paving was reviewed, noting experimental approach, included participants, surfaces tested and stopping distance results. The experiments were carried out in the EPSRC funded PAMELA facility. Blind and partially sighted people were recruited all of whom used the normal street environment unaccompanied. The participants included guide dog owners, people who use a long cane and those who use no assistive device. The top surface of the test facility was predominantly concrete paving slab, but with test surfaces discretely located. The task for all participants was to travel from one designated place in the test area to another. For some of these trials the participant would encounter one of the test surfaces, but on other trials they would not.

Results
In spite of the variety of experimental approaches, the results from the literature and early analysis of our laboratory tests are consistent. As may be expected, people who use a long cane detect changes in surface earliest, in many cases before stepping on them. From the number of people who failed to detect the surface, 400mm blister tactile surface is
insufficient whereas 800mm resulted in comparable levels of detection as reported in the literature for greater lengths of tactile surface.

**Conclusions**
The UK Inclusive mobility guidance recommends that the back edge of blister tactile surface be a minimum of 800mm from the kerb edge (Department for Transport 2003). Whilst a length of 800mm may be sufficient for detection, the results indicate that many blind or partially sighted people may detect and stop right on the edge of the footway/vehicle lane. However, increasing the length of blister tactile surface creates an obstacle for others. Potential solutions to this conflict will be discussed.

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