TYPE OF INFRASTRUCTURES	REFERENCE	ORIGIN/CITY	TARGETED INDIVIDUALS	AIM / OBJECTIVES / HYPOTHESES	JUSTIFICATION	PARTICIPANTS	METHODOLOGY / SET UP	RESEARCH TOOLS	VARIABLES / INDICATORS STUDIED	ANALYSIS / INTERPRETATION	RESULTS	STATED LIMITS	CONCLUSION (THE BEST INFRASTRUCTURE/PRACTICE)	QUALITY
Curb cuts, sidewalk design, pedestrian crossing	**Stahl**, A., Newman, E., Dahlin-Ivanoff, S., Almén, M., & Iwarsson, S. (2010) Detection or warning surfaces in pedestrian environment: the importance for blind people of kerbs, depth and structure of tactile surface. *Disability and Rehabilitation*,32 (6): 469-482.	**Sweden**	**Visually impaired**	1) Study whether and how warning surfaces are detected. 2) What impact kerb, depth, and structure have on the detection. 3) Whether there are differences in the detection with or without kerb, depending on structure and depth. 4) If and what impact the surrounding material and natural guidance surface have on the detection.	Pedestrians who are blind have considerable difficulty locating crosswalks at complex signalized intersections. They have location problems in traffic environments where there are no kerbs. There isn't any study investigating detection of warning surfaces in pedestrian environments for people with blindness focusing on the availability of kerbs, and on the depth and structure of the tactile surfaces.	n = 10 fulfilled the inclusion criteria. n=8 accepted (mean age: 43 years old (19-59 years old)) who are totally blind (no light perception) and using a long white-cane as an orientation device selected from a directory maintained by the Low Vision Centre in the region. They were all unfamiliar with the tested spots.	**Experimental design with mixed methods:** Trials, observations (think aloud) and structured interviews **Trials:** an introductory walk (30 minutes) with orientation and training components took place. During the second walk the spots were tested one by one. At each spot, the participant started 7-12m prior to the spot, unaware of its design. The test route containing 14 spots (7 with kerb, 7 without kerb), and 7 spots were 1000mm-deep and 7 were 1500mm-deep. 14 spots x 8 participants = 112 units of analysis (112 for observation, 112 for interview). **Structure of the tactile surface** (four designs all 5mm high: Danish (rounded domes aligned in parallel, 300x300, bottom diameter: 33mm, top diameter: 10mm, c/c: 47), English (rounded domes aligned diagonally, 400x400, bottom diameter: 23mm, top diameter: 20mm, c/c: 65), Japanese (flat-topped domes aligned in parallel, 300x300, bottom diameter: 22mm, top diameter: 12mm, c/c: 60), Swedish (flat-topped domes aligned in parallel, 210x210, bottom diameter: 30mm, top diameter: 25mm, c/c: 70)) **Observations:** concentrated on the detection of the warning surfaces. **Interviews:** capture the thinking process and the inside perspectives of the participants.	Standardized Housing Enabler was used to assess functional limitations and Questionnaire	Detection of warning surface (stops or says he/she detected the surface before stepping out in the street) Existence of a kerb (yes or no) Depth of the tactile surface (1000 or 1500mm) Structure of the tactile surface (four designs: Danish, English, Japanese, Swedish) Surrounding material and natural guidance surface on detection	Compilation of the units of analysis and descriptive data. Subjective views of the detection immediately as well as the participant's own experience of the warning surface were collected and qualitatively analyzed. Descriptive statistics, through cross-tabulation and likelihood-ratio chi-square, or Fisher's Exact test were performed.	Detected in 86% of the cases in observation, and in 91% of the cases in interview. Method of detection: white cane (61%), feet (18%), sound (8%), don't know (13%). In 86% of the cases, the warning surface was identified both with and without a kerb. Regarding the feeling of safety/security experienced, the interviews showed no differences between kerb/no kerb. **1000mm:** Detected in 87% of the cases in observation and in 91% in interviews. **1500mm:** Detected in 84% of the cases in observation and in 91% in interviews. According to the interviews, 1000mm-depth was judged sufficient in 57% of the cases, and in 68% of the cases at the 1500mm- depth. Both depths were experienced as much or quite safe/secure in a majority of the cases (63% at 1000mm and 52% at 1500mm). Stated as the most important design characteristic for detection. Structure 1 was detected in 72% of the cases, 2 in 84%, 3 in 88%, and 4 in 100% of the cases. Structure 4 was also judged as the easiest to detect and the most safe/secure. It was felt most clearly with the white cane, but the white cane got stuck at all spots but one. The material of the natural guidance surface had an impact on the detection of the warning surfaces, while the surrounding material in terms of smooth or rough did not. A natural guidance surface involving cobblestones made the detection more difficult at all structures but Structure 4. The material leading up to the spot was often mentioned as an important factor for the detection of the warning surface.	This study did not show any clear impact on detection depending on the surrounding material. It is sometimes difficult to get the participants to think out loud. Structure 3 was only tested at two spots with kerb and not at any without. Structure 1 was not tested with a kerb at 1000mm depth.	The probability to detect a tactile surface is not higher if the design solution has a kerb of not, which contradicts results from earlier studies that demonstrated that kerb is the most important aspect for successful detection warning. However, no other aspects than the kerb were considered in these studies. The probability to detect a tactile surface is not higher if the depth is 1000mm or 1500mm. The most important design characteristic for detection is the structure of the surface, with a distinct natural guidance surface prior to the warning surface. Structure 4 (Swedish) seems to be the best in terms of detection. Flat-topped domes: the white cane got stuck in the surface. Natural guidance surface involving cobblestones made the detection more difficult at all structures but Structure 4.	51
See also "Descriptive-Comprehensive"	**Laakso**, M., Sarjakoski, T., & Sarjakoski, L. T. (2011). Improving accessibility information in pedestrian maps and databases. *Cartographica* . 46(2), 101-108.													
See also "Descriptive-Comprehensive"	**Tomic**, S. (2003). Hamilton Urban Braille System: Urban design for an Aging Society. *Plan* . Spring/Printemps 2003: 41-43.													
See also "Street-Comprehensive"	**Newton**, R., Ormerod, M., Burton, E., Mitchell, L., & Ward-Thompson, C. (2010). Increasing independence for older people through good street design. *Journal of Integrated Care* . 18 (3): 24-29.													
See also "Street-Comprehensive"	**Rosenberg**, D.E., Huang, D.L., Simonovich, S.D., & Belza, B. (2012). Outdoor built environment barriers and facilitators to activity among midlife and older adults with mobility disabilities. *The Gerontologist* . 53 (2): 268-279.													