RESEARCH REPORT

Safety Information Cards for Blind and Visually Impaired Passengers

Passenger safety information cards have shown to significantly improve response and survival in emergencies. Pictorial presentation of information is even more successful as it is not as culturally limited as language, and because recognition memory is greater for pictures than it is for words and/or photographs.

Blind and visually impaired passengers have not had equivalent safety information placards and have had to rely solely on verbal instructions from flight attendants or other passengers. After many years of test studies and research we are now making it available to successfully inform blind and visually impaired passengers of the necessary safety information. This also comes as the industry is beginning to comply with many new regulations and requirements of the ACAA, FAA and specifically the Department of Transportation 14 CFR Part 382 “Nondiscrimination on the basis of Disability in Air Travel; Final Rule”.

Our research shows that in addition to conveying passenger safety in braille form, it increases comprehension to include a tactile, aircraft specific map (Tactile Briefing Card Study; Carper-Ferguson, Johnson and Lasko). Summary Included. In other studies, tactile maps have been used effectively to teach new routes to the blind (Leonard, 1970). Blind pedestrians who learned new routes using maps have been shown to walk more rapidly on the new route than those who learned by more conventional mobility techniques (Brambing, 1977).

TACTILE BRIEFING CARD STUDY

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Safety briefing cards provide important and necessary information to passengers. Sight impaired and/or blind people do not have access to this information and may be at a disadvantage in an accident. While some information is provided by flight attendants on a one-on-one basis, certain information such as the layout of the plane may be more easily communicated with tactile briefing cards. Tactile maps have been used to teach new routes to blind pedestrians for years. Studies with the blind indicate that line representations of spacial layouts are recognized and remembered. In fact, people blind since birth can generate line representations of three-dimensional objects.

The first part of the study was to determine the minimum separation, height and thickness characteristics of 2 lines that would lead to accurate discrimination by touch. Tested were lines of three heights above the surface (0.25mm, 0.5mm and 1.0mm); with three widths (1.0mm, 2.0mm, and 4.5mm); and separated by one of five distances (1mm, 1.5mm, 2mm, 3mm, 4mm, and 5mm). Each pair of lines was 3cm long. All the lines were on test forms made of 100# Gloss Cover width paper.

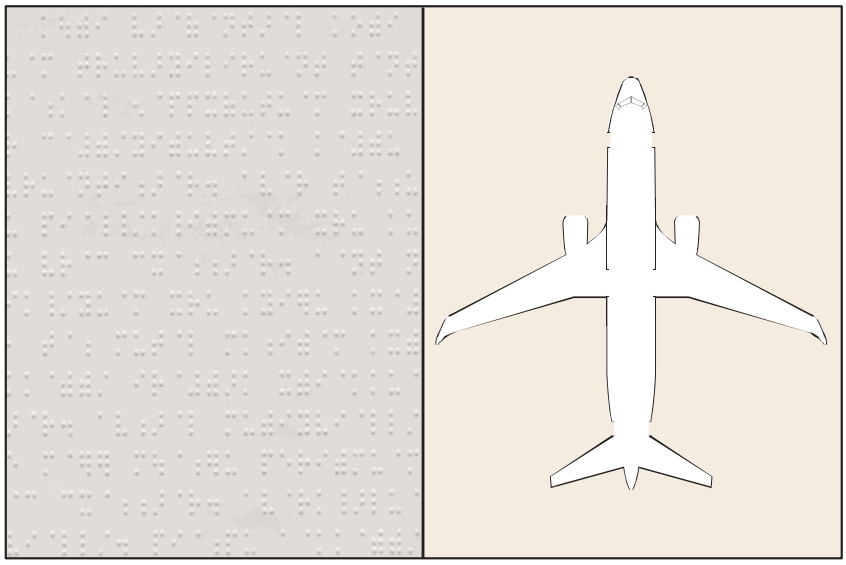
Based on the findings of this part of the study several outlines of aircraft were designed with a “top-down” orientation; wings, fuselage and exits were depicted.

One aspect of the test investigated preferred size of the plane; one was large (33cm; 13 inches) and the other small (16.5 cm; 6.5 inches). Another variable studied was how best to depict an exit opening, as a circle (opening) or as a break in the fuselage line. Also, since many legally blind and/or sight impaired people can see to some extent, one of the test cards used color.

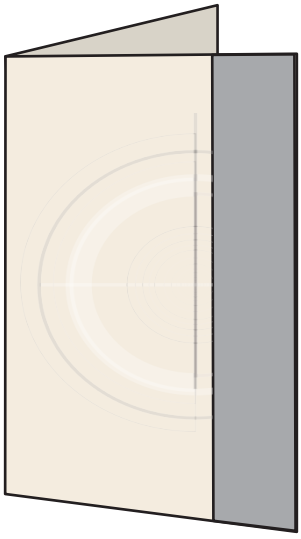
Twenty-four people with various stages of blindness evaluated the “tactile maps” of the aircraft. The smaller card was easier to understand, both in terms of identification of front and rear of the plane, and locations of the nearest exits. The break in fuselage line was also easier to understand than the circle which identified the location of the aircraft exits. Color was not helpful to those with some vision.

It was concluded that a tactile map of the airplane in partnership with braille is useful to help sight impaired/blind passengers understand where they were in relation to structural components of the aircraft.

737-800 CARD SAMPLE



PASSENGER SAFETY INFORMATION IN BRAILLE



EMERGENCY EXIT TACTILE MAP