

The use of electronic orientation and mobility aids by blind and partially sighted people

*Gill Whitney
Principal Researcher
JMU Access Partnership
Royal National Institute for the Blind (RNIB) and
Guide Dogs for the Blind Association
London, UK*

Abstract

The aim of this paper is to describe how electronic devices can help blind and partially sighted people to avoid obstacles in their path and to find their destination successfully.

Introduction

The percentage of blind and partially sighted people who are independently mobile has not increased over the last 30 years. This has led to a large number of technical projects which aim to assist the users when they travel.

Electronic orientation aids have been designed to give orientation and wayfinding information to blind and partially sighted people. The information they can provide includes location and direction information as well as information on objects in the users environment. An example of an electronic orientation aid is the RNIB REACT system, this system is in use in a number of places including Leeds bus and train stations. The RNIB REACT sign speaks a message as the blind or partially sighted user walks up to it. The blind and partially sighted person can then follow the spoken instructions to find the help point or their stop.

Electronic mobility aids have been designed to either supplement or replace the users primary mobility aid - long cane or guide dog. Although the first electronic mobility aids were designed over 30 years ago there are very few users of these systems. Electronic mobility aids are either worn or carried by the blind or partially sighted person so that they point in the direction the person is travelling. When the user walks towards an obstacle the device beeps so that they can change direction to avoid it.

Orientation and Mobility Skills of Blind and Partially Sighted People

Comparison was made in the 1991 report –Blind and Partially Sighted Adults in Britain: the RNIB Survey (Bruce et al, 1991)– between the level of independent mobility of young registered blind people as discovered for the 1991 survey and the level found by Gray and Todd in 1965 (Gray & Todd, 1967). It was found that the