

WAYFINDING AT FOR PEOPLE WHO ARE BLIND, DEAF, OR HAVE A COGNITIVE DISABILITY



Since the dawn of civilization, humans have pursued better and better methods for finding our way in our world. From using the sun and the stars, to maps, to Global Positioning System (GPS) – a worldwide radio-navigation system using satellites and ground stations. Today, we have made profound advances that have forever changed the way we navigate in our physical world– or

wayfinding as it is commonly known. These general technology advances have provided a resource for new assistive technology (AT) products for people who are blind, deaf, or have cognitive impairments to become more independent in their travels. Wayfinding technologies generally help people with disabilities access location information such as signs, landmarks, and travel routes, so that they know where they are and can move from place to place safely.

A tremendous number of wayfinding products are on the market. Before you purchase a wayfinding tool, first make sure the device is accessible to you. If you are blind, devices that provide you with information through vibration and auditory cues can be especially helpful. If you are deaf, you should consider a device with vibration and visual cues. Lastly, if you have a cognitive disability, a device with a combination of vibration, visual, and audible cues may serve you best (we want to avoid statement that can be perceived as paternalistic). Be sure to consider how well the device features match your specific needs, what tasks you want to accomplish, and how the information is conveyed to you. In this guide, we describe a sampling of accessible wayfinding products that are currently available on the market.

One wayfinding device is the aptly named WayFinder. WayFinder is free mobile GPS application that provides step-by-step directions to a destination. It also enables you to

create specific travel routes and activate them from your location. If you are blind, have low vision, or have a cognitive impairment, the customized audio instructions the device provides help guide you to where you need to go. If you are deaf or hard of hearing, the instructions are also provided visually to prompt you through route navigation.

Lechal shoes may be another helpful option if you are deaf, blind, or have a cognitive impairment. These shoes, paired with a Bluetooth linked smartphone, provide you with cues to nudge you to the intended direction. You enter a destination in Google Maps on your smartphone and the shoes provide you physical feedback in the form of vibrations as to which direction to go. Your right shoe vibrates when you are supposed to turn right and your left vibrates when you are supposed to turn left.

Another product is ViaOpta Nav. This app – whether you are blind, deaf, or have a cognitive disability – helps you locate the nearest store, café, or other desired location. ViaOpta Nav is the first turn-by-turn navigation app available for a wearable device such as the Apple Watch and Android Wear devices. It provides voice guidance and produces vibrations which alert you to upcoming intersections and landmarks.

Blind Travelers Benefit from a New State-of-the-Art Public Transit Tool

Researchers at the NIDILRR-funded Rehabilitation Engineering Research Center (RERC) on Blindness and Low Vision at [Smith-Kettlewell](#) are collaborating with community agencies to provide innovative travel tools for travelers who are blind or have visual impairments. Subway maps are commonplace for sighted transit riders, but for people with visual disabilities, accessible transit maps are rare. In collaboration with the San Francisco LightHouse, a major California community service organization for the blind and visually impaired, and with additional funding contributed by the Department of Transportation (DOT), the RERC created a new kind of orientation and mobility tool—portable, inexpensive, talking, tactile maps for transit stations.

Many blind and visually-impaired pedestrians may forego public transit for more expensive travel alternatives because they find it highly stressful to travel through unfamiliar train stations. The new universally accessible maps of Bay Area Rapid Transit (BART) stations make it easy to plan routes through unfamiliar stations. The maps are embossed, include Braille labels and tactile symbols, and are printed with high-contrast graphics and large print. In addition, the maps work together with a special smartpen, which provides audio information about specific map elements.

Source: National Institute on Disability, Independent Living and Rehabilitation Research: FY 2014 Organization Highlights

Sendero GPS Standard Deluxe may be another option if you are blind or have a cognitive disability. Sendero GPS is a voice output electronic mobility device that tells you what street you are on as well as streets, intersections, businesses, and landmarks near you. It can also tell you how far they are from where you are located. Then you can choose where you would like to go and the software will help you navigate to your desired destination. The package includes software, a Bluetooth GPS receiver with Wide Area Augmentation System (WAAS), an audio tutorial, and a 16 GB Compact Flash card with pre-installed digital maps you purchase. Maps of several countries are available, including the U.S. and Canada.

The Ariadne GPS is an app that allows you to explore the world around you by moving your finger around a map on your mobile device. It can help you to know where you are and what is around you if you are deaf or have a cognitive disability. The app shows you and tells you via audio the street names and numbers that are around you when you touch them. It also has a "favorites" feature, and can be used to announce stops on the bus or train.

For More Information

To learn more about the AT devices discussed in this guide and to find others, visit AbleData, at www.abledata.com.

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