

Accessible Pedestrian Signals (APS) - Audio Tactile Controlled Crossings

NCBI Position Statement

To travel independently, people who are blind or vision impaired use whatever useful vision they have, auditory and tactual information, and any gathered knowledge of an area to keep track of their location and make safe travel decisions.

Accessible Pedestrian Signals (APS) are devices that support safe, independent road crossings as they communicate information about the WALK and DON'T WALK intervals at signalised intersections in nonvisual formats such as audible tones, verbal messages, and/or vibrating surfaces.

Why is it Important?

To make safe road crossings at signalised intersections, pedestrians who are blind or vision impaired need to detect the street, align to cross, locate the button, identify the WALK interval, and maintain alignment while crossing.

If a person who is blind or vision impaired is to cross an intersection without the help of an APS button, they must first analyse the traffic flow of the intersection, determine whether the intersection is signalised, find the button and align to face towards the destination curb. Then they must listen for traffic to stop and answer the question "When does the WALK interval begin so I know it is safe to cross?"

There are many factors which can impact this decision including the lack of sound emitted by electric cars, bikes and scooters, the fact that WALK intervals do not always align with the surge in parallel traffic and traffic volume is not always consistent. As a result, this road crossing decision is an extremely dangerous and potentially life threatening one for people who are blind or vision impaired and means that most people would have to rely on a sighted person to help them cross the road safely.

In contrast, APS buttons assist with locating the signal button and crossing point, identifying the WALK interval at both familiar and unfamiliar locations, and maintaining alignment while crossing. This enables roads to be crossed safely and independently, significantly reducing risk and the need to request assistance from bystanders.

Accessibility Standards

United Nations Convention on the Rights of Persons with Disabilities

Ireland has signed and ratified the UN Convention (UN CRPD, 2006), and hence is bound by the obligations that it establishes.

Article 9 of the Convention states the obligations of State Parties to enable persons with disabilities to live independently and participate fully in all aspects of life. Section 1 and Subsection 1a of Article 9 also specifies that:

1. State Parties shall take appropriate measures to ensure persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications... These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to:

- a)** Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces.

European Standards

European Standards for pedestrian crossings, as found in the “Accessibility and Usability of the Built Environment – Functional Requirements” document (I.S. EN 17210:2021 page 72) states that:

The following requirement applies:

- a) Signal controlled pedestrian crossings shall have audible, visual, and tactile crossing signals (green man for example for hearing impaired) and an audible signal...to inform pedestrians with vision impairments when to cross the road safely.

The following best practice guidance is significantly informed by section 7.3.8 on page 77 of the European Standards document which outlines a list of requirements and recommendations for creating accessible audio signal systems for pedestrian road crossings.

Best Practice Recommendations

- APS systems to be installed at all signalized intersections, including retro-fitting APS systems to pre-existing intersections.
- Promptly repair or replace any broken or faulty APS systems.
- Ensure APS audio signals are at sufficient volume to be heard by pedestrians (especially those who may be hard of hearing).
- Ensure APS audio signals are clearly distinguishable to ensure easy differentiation between WALK and DON'T WALK signals.
- Programme APS signals for 24/7 operation without 'curfews' for night time operation. Remember, people who are blind or vision impaired need access to safe road crossings at all times.
- Make the APS button large, tactilely distinct, and a different high contrast colour from the APS system itself.
- Install a light to help illuminate the button's shape (this is particularly useful at night or in other low-light settings).
- Most importantly, have the APS system's audio output clearly emanate from the actual area where the button is situated, this sound will then act as a beacon allowing the person who is blind or vision impaired to locate the button.

Summary

People who are blind or vision impaired have a right to participate in all aspects of life, and the right to access all public spaces safely and independently under Article 9 of the UN CRPD and the Accessibility & Usability of the Built Environment- Functional requirements I.S EN 17210:2021

Installation and regular maintenance of APS systems enables people who are blind or vision impaired to fully exercise their right to navigate road crossings safely and independently at signalised intersections.

About NCBI

NCBI, the National Council for the Blind of Ireland, provides support and services to over 55,000 people nationally. Offering technology solutions and innovative programmes to support people in education, the workplace, and wider society. NCBI advocates for a barrier free and accessible society for people who are blind or vision impaired.

NCBI's Possibility Lab is an innovative, solution-focused access and mobility consultancy offering bespoke training, design advice and fee-based access consultations to key stakeholders and businesses who share our vision for a barrier free and accessible society for people who are blind or vision impaired.

If you require any further guidance, please contact NCBI via hello@possibilitylab.ie

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