

ANEC STATEMENT ON “NEW STANDARD FOR THE VISUAL ACCESSIBILITY OF SIGNS AND SIGNAGE FOR PEOPLE WITH LOW VISION”

A new ANEC study shows that the size of pictograms, symbols, icons and text used in public places such as airports, metro stations and shopping centers should be at least 5% of the Critical Reading Distance (CRD) in order to be readable by the majority of consumers, including people with visual impairments. Optimal –but not maximal- contrast intensity should be around a value of 75% on the white-black axis. From the new study – carried out by the University of Ghent (Belgium), it is clear that the interaction between size and contrast has to be considered, when discussing guidelines for visual accessibility in public spaces¹.

At present, in fact, no harmonized approach exist in Europe with regards to size, character height of text and symbols, foreground/background contrast, colour, reading distance, localisation, lighting and legibility of signs used in public places.

Finally, the study draws attention to the particular challenges posed by ensuring both localization and recognition of signs as they are both essential for independent travelling and mobility. However, while recognition is acceptable from 5% CRD on and hardly increases beyond that threshold, localization still improves until 9% CRD.

Background

In the countries of the European Union, life expectancy continues to increase². In the EU, Eurostat projections highlight that the share of the population over 80 will increase from 4.1% in 2005 to 6.3% in 2025 and then 11.4% in 2050. Therefore the “baby boomers” born between 1945 and 1965 will start retiring, creating a major shift in the balance between the active and the retired European population.

As a consequence, the number of people with age-related low vision also increases. Problems such as macula related conditions etc are more and

¹ ANEC-R&T-2010-DFA-001

² Regions 2020 Demographic Challenges For European Regions’ – Background document of the European Commission Directorate general for Regional Policy (2008)

more frequent³. At the same time, people are more mobile and continue to be mobile until a higher age. This older population will often have considerable purchasing power and is therefore likely to travel more for holidays making.

However, the layout of our built environment has become more and more complex with the use of more and more signs and signage in and around public areas and buildings for information, guidance, identification or warning purposes. And also to indicate directions to facilities such as toilets or information kiosks. This situation results in a growing number of mainly elderly people with low vision having difficulties in finding for example their way in public spaces. Despite the obvious need to care for the needs of people with low vision, no European standard nor regulation exist on the visual accessibility of signs and signage in public places.

Therefore, ANEC commissioned a study that primarily aimed to provide a critical overview of the national standards -if available- for signs and signage in the EU countries. This data was checked against the results of two experiments conducted for the study on identification and localization of signs. Recommendations were formulated on the size of signs (words, abbreviations, and icons) in public spaces and the advised contrast intensity between the elements of an icon/word/ abbreviation (local contrast between sign elements and immediate surroundings).

Main results from the study

A literature overview showed that within the EU, a large variability in standards for visual accessibility exists. The overview focused on factors such as character height of text and symbols, foreground/background contrast, colour, reading distance, localisation, lighting and legibility. Existing guidelines for the size of signs in public spaces differ significantly over EU countries, ranging from 1.5 to 6% of the Critical Reading Distance (CRD), from which the information contained in letters or symbols must be readable for people with low vision. As far as contrast guidelines are concerned, inconsistencies in definitions and calculations of contrast have to be noted, although there is a general agreement on aiming at a maximal contrast for signage in public spaces.

³ For example, it is estimated that there are over 500,000 people with macular conditions in the UK. Macular degeneration is the most common form of visual impairment in the UK and throughout the developed world (<http://www.maculardisease.org>)

Forty-two volunteers -40 persons with low vision and 2 control participants- participated in the practical part of this study. In a first experiment, they had to identify signs, with different sizes and contrast intensities, presented on the same location in their central visual field. In a second experiment, they had to search for a specific sign in a busy visual environment such as a railway station hall and identify it. Response accuracy and response time were measured.

The results with respect to size of the signs in general show that size of text and symbols on signs should be at least 5% of the Critical Reading Distance. Optimal –but not maximal- performance was observed when contrast intensity approached a value of 75% on the white-black axis. From this study, and in particular from the interaction between size and contrast, it is clear that these two factors cannot be seen independently from each other when proposing guidelines for visual accessibility in public spaces.

ANEC's conclusions

- With currently about 13 million people estimated with low vision in Europe and 125 million worldwide, enabling safe and independent mobility for people with low vision in public places seems a basic need
- Size of text of signs should be at least 5% of Critical Reading Distance (CRD) for the 'general' low vision population but familiarity with signs plays also a role
- It is important to agree on the aim of any future guideline as localization and recognition are both essential for independent travelling and mobility. However, while recognition is acceptable from 5% CRD on and hardly increases beyond that threshold, localization still improves until 9% CRD
- Further research should be carried out to assess the specific needs of people with low vision, given the considerable heterogeneity in this group with respect to visual acuity and visual field restrictions
- the place where the signs are situated is also playing a role in increasing readability and should be the subject of further guidance as it happens sometimes that signs are large but appear to point into the sky or to a brick wall. The logic of following the signs along a route is also very important for visually impaired people., with enough continuous signage to help people navigate around routes
- It should be noted however that the needs of people with other visual impairments such as blindness should be taken into account with the

- use of Tactile Walking Surfaces Indicators (TWSI) as well as the provision of relevant information about public places in alternative format⁴
- ANEC believes that the main results of the study should be considered as the starting point for the formulation of guidelines, which could in time result in a European standard on the legibility of signs and signage in public buildings/for public procurement, where examples of good practice are given as an illustration.

ANEC in brief

ANEC is the European consumer voice in standardisation, representing and defending consumer interests in the process of standardisation and certification, also in policy and legislation related to standardisation. Our aim is a high level of consumer protection. ANEC was set up in 1995 as an international non-profit association under Belgian law. We represent consumer organisations from the European Union Member States and EFTA countries. The European Commission and EFTA fund ANEC, while national consumer organisations contribute in kind. The ANEC Secretariat is based in Brussels.

The study is available at:

<http://www.anec.eu/anec.asp?rd=77474&ref=07-01.01-01&lang=en>

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⁴ ANEC actively participates in ISO TC 173 WG 8 ISO/TC 173 WG 8 “Assistive products for persons with vision impairment – Tactile walking surface indicators” (TWSI) and ISO/TC 59/SC 16 “Building construction — Accessibility and usability of the built environment”.