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Over many years John has used his civil engineering background at local government level to help create public domains that consider all aspects of equitable and dignified access for people of all ages, capabilities and backgrounds. His skills also include ecotourism and the sustainability of the natural environment as well as the built environment. John is also an accredited access consultant.

Tactile Street Name Signs: City of Sydney Case Study

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Background

Visitors to cities rely on street name signs and other wayfinding cues to navigate successfully. However, cities evolve over time and this leads to haphazard signage and wayfinding cues. Many visitors to a city rely on a smartphone app to guide them around, but there is still a place for the humble street name sign. The City of Sydney embarked on a project to develop street name signs that both sighted and non-sighted people could use. This paper explains the project and outcomes.

Introduction

Street name signs are usually found on posts and walls. They can also be hanging from an awning (Picture 3); or hanging from an overhead structure. Sometimes they are embedded into the footway (Picture 4). Too often, wherever they are, they cannot be found or read by many people, particularly those who have vision impairment. People with good vision are not able to locate or read a street sign if it is poorly located or merges into the background (Picture 5).

Picture 1: A standard pole street sign

Picture 2: Wall mounted sign

Picture 3: A hanging sign

Picture 4: Sign embedded in footway

**Picture 5: Difficult to find or read the King St sign.
Arrow indicates position.**

City of Sydney case study

In 1990, the City of Sydney, a municipal authority in Australia, decided to replace its many different street name signs with a single design, white text on a dark green background. Although the new signs are attractive, many people still have difficulty finding and reading them.

The task was to develop and design a sign that could be found and read by people with low vision or who are blind. But where should such a sign be placed?

Traffic light poles at street intersections are common in most urban areas. Many have a pedestrian push button to activate the "walk" sign when the traffic stops. In Australia, these buttons have an auditory signal – a slow beep for "don't walk", and a rapid beep in conjunction with the "walk" sign.

As most pedestrians know that the traffic signal pole has the push button, it was logical to place tactile signs here as well. Together with the Association of Blind Citizens New South Wales we developed a Braille and tactile sign that could be placed adjacent to the audio-tactile pedestrian button on traffic signal poles.

Several materials were evaluated. Wooden signs were rejected as they are easily damaged. Metal was rejected because metal surfaces can become very hot during a Sydney summer, and people who touch-read cannot afford to burn their fingertips. Plastic was also rejected because it did not provide sufficient tactility for people who read by touch, and because it reflected light which blurred the text for a person who has low vision.

Recycled rubber was becoming popular for many different purposes, and this became our choice of material. To get the

Braille and the raised lettering onto the rubber we needed the reverse of a rubber stamp. Consequently, it was a stamp manufacturer who produced the signs.

The result was black rubber signs with raised gold-coloured street names in upper case Arial Rounded lettering, followed by property numbers. The gold against the black was an excellent colour contrast. The same details were provided in Grade One Braille (left justified).

Picture 6: Black rubber signs with gold lettering

The signs are read from top to bottom, just as we read from left to right across a page. The first number is that immediately behind the reader, and the second number is followed by the letter R or L, to indicate that the second property number is to the right or left of the reader.

In the City of Sydney, the audio tactile buttons always face the footway. Consequently, the black rubber signs were placed adjacent the audio tactile button on the right-hand side of the traffic light poles as the pedestrian faces the kerb.

For more than twenty years, the rubber signs served the City of Sydney well. Eventually the rubber deteriorated in the harsh summer conditions, and the adhesive began to break down. It was time for a review.

A working party was set up with two access consultants, representatives from Vision Australia, Guide Dogs NSW/ACT, Association of Blind Citizens NSW, and People with Disability Australia. The group was guided by internationally renowned sign designer Minale Tattersfield.

The black rubber signs were replaced with aluminium. They were designed with white text on a black background, and the upper case text was replaced with sentence case. All other elements and placement of the original signs were retained. The space below the text allows the addition of QR Codes that can provide directional or community information that can be read by Smart Phones.

Pictures 7 and 8: Black aluminium signs with white lettering

The new signs are also found on the right hand side of the pole as the reader faces the kerb and are read from top to bottom. Pictures 7 and 8 show the signs at each end of a city block. Picture 7 Reads, "York Street 14 – 26L". This means the property number 14 is directly behind the reader and the property number 26 is to the reader's left. Similarly, Picture 8 reads "York Street 26 – 14R". This means the property number 26 is immediately behind the reader and number 14 is to the right.

Signs are fixed to traffic signal poles, at a standardised height approximately 1000 mm above the footway, with the mid-length of the sign level with the audio-tactile button. This height allows the signs to be read at close range by people with low vision, and touch-read by people who read raised lettering or Braille.

The City of Sydney erected two thousand of these Braille and tactile street name signs on traffic signal poles at pedestrian crossings. Although the signs were originally designed for people who are blind or vision impaired, it was discovered that they also provide independence, convenience and dignity for many others. For example:

- *Older citizens whose sight has deteriorated, and those who have lost stature are easily able to find the signs at a convenient height and location. As we age we realise how much we have relied on 'landmarks' to assist our orientation. Over time, 'landmarks' such as recognizable buildings disappear or alter in appearance, but street names generally remain the same. So, locating a familiar street name provides comfort and avoids disorientation.*

- *People who are deafblind have very few cues in the public domain to allow them to navigate a path of travel without having to rely on personal assistance. Some depend heavily on 'touch' to inform their surroundings. These easily accessible Braille and tactile signs provide important guidance.*

- *People who have a speech or hearing impairment who may not be able to ask for directions or hear the reply.*

- *The height of the signs enables children, people of short stature and people who use a wheelchair to find their location.*

- *People who have a cognitive disability such as dementia or acquired brain injury are reassured when they recognise a familiar street name.*

- *As Braille is an international form of reading, visitors from anywhere in the world who read Braille can find their way around the City of Sydney.*

The signs are intuitive, accessible, equitable, easy to find, easy to read and readily available to everyone. They embody the 7 Principles of Universal Design (1997) and meet all 8 Goals of Universal Design (2012).

Standardisation is a key element in navigation for people who have a sensory, cognitive or physical impairment. As the format of the Braille and tactile signs is standardised, and as they are always fixed at a standard height and location, the design could be adopted by cities anywhere in the world.

Conclusion

Smartphone apps such as Google maps assist many people to get around a city. However, not everyone has a smartphone and internet connection. In addition, Wi-Fi connection can be erratic especially in the vicinity of tall buildings. Wayfinding apps and other devices are also available for people who are blind or have low vision. However, these rely on pairing with digital ambient technology. The City of Sydney project shows that universally designed street name signs still have a role to play in helping people navigate a city independently. The signs are reliable, constant and consistent, and give city pedestrians the confidence to navigate city streets with ease.

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