

GUIDE  
DOGS



**STEM Project**

**Inclusive cities -  
where everyone can get around safely**



### Towns and cities can be difficult to navigate for anyone.

Even if you know your local town centre and have sight, it's sometimes difficult to work your way through crowds, cross roads safely or find which platform your train is leaving from. These problems are much more difficult for people with sight loss. While a guide dog helps its owner cross the road safely and avoid obstacles, the person with sight loss needs to know where they are going and to navigate the space around them.

Many guide dog owners already use technology to help them do this in the form of GPS devices like Google Maps and other navigation apps on their smart phones, but these are limited and don't help with everyday problems that guide dog owners face.

#### These problems include:

- Finding the right bus and knowing your stop
- Knowing where the shops are
- Purchasing and paying for items
- Finding lifts and escalators
- Knowing which escalator is up or down
- Shared surfaces – where the kerb and pavement are at the same level making it difficult to know if you are on the road or not

Being able to solve these problems usually means asking for help, but an inclusive city would mean that people with disabilities would be able to use facilities independently.

## What is an inclusive or 'smart' city?

An inclusive city is developed to include all citizens, considering the needs of people from all backgrounds as well multiple spatial, social and economic factors ensuring opportunity for all. These cities can also be described as 'smart'. In 2013 the Department for Business Innovation and Skills noted that "A Smart City should enable every citizen to engage with all the services on offer, public as well as private, in a way best suited to his or her needs.

In recent years town planning in the UK has moved towards shared surface streets as they are seen to be more attractive and people friendly. These are where the road and pavement are built at the same level, removing the kerb so that cars, buses, cyclists and pedestrians share the same surface. In some cases, controlled crossings (pelican crossings) are also removed.

Shared surface streets are dangerous for people with sight loss, who rely upon the presence of the kerb to know they are on the pavement and not in the road and guide dogs are trained to find a kerb, so these spaces make it more difficult for them to navigate.

Guide Dogs has been campaigning against the use of shared surface streets as part of our Streets Ahead campaign, supported by organisations representing disabled people across the disability sector, older people and other groups.



**These spaces are an example of a city not being inclusive and actually making it more difficult for people with sight loss and other disabilities.**

In some cases there are simple solutions that will help everyone get around more easily. One of these solutions is talking buses. These are buses that use recorded announcements to let passengers know the name of the next stop. This helps people with sight loss know when they need to get off their bus. Other sound based solutions are lifts that announce when they are going up or down and what floor they are stopping on. These are simple to implement but unfortunately we have a long way to go to ensure that all towns and cities offer talking buses and lifts.



**To find out more about Guide Dogs Talking Buses campaign visit**  
**[www.guidedogs.org.uk/how-you-can-help/campaigning/talking-buses](http://www.guidedogs.org.uk/how-you-can-help/campaigning/talking-buses)**

## Shopping

Once a shop has been located, it can still be very challenging for a person with sight loss to find their way to the correct aisle or department, to be able to confidently select the right products they want and to find the tills to pay for them. Recent advances in contactless and smart technology has meant that paying for shopping is much easier and many guide dog owners use contactless payment rather than Chip and Pin or make payments on their smart watches or phones. Money has become more accessible recently with braille being added to the new £10 note **[www.rnib.org.uk/rnibconnect/new-10-pound-note](http://www.rnib.org.uk/rnibconnect/new-10-pound-note)**

There are some amazing apps which can also help with shopping including Tap Tap See that optimise a smart phones camera and can describe what the camera is looking at e.g. 'a red jumper'. To find out more visit **[taptapseeapp.com](http://taptapseeapp.com)**

**[www.guidedogs.org.uk](http://www.guidedogs.org.uk)**

## Getting around

Many guide dog owners use GPS or Apps to help them navigate. Some popular ones include Google Maps, Blind Square, Apple maps and travel apps such as Moovit. Apple devices are particularly accessible with built in accessibility software including voice recognition and audio describe and screen readers which make it easy to access smart technology and the internet on the move. These devices do require that the guide dog owner is confident with technology and can be expensive to purchase. This technology relies on the use of sound to help people know where to go. Guide Dogs has been working with Microsoft, Future Cities Catapult and other organisations to develop a sound based navigation tech to help unlock cities and make them more accessible for everyone. To find out more about this visit [www.guidedogs.org.uk/services-we-provide/technology](http://www.guidedogs.org.uk/services-we-provide/technology) and watch the video here [www.youtube.com/watch?v=RLjFKZChz4&feature=youtu.be](https://www.youtube.com/watch?v=RLjFKZChz4&feature=youtu.be)



### Task

## Connectivity

For all of these devices to work we need to feel confident that our cities will have excellent connectivity. Explore the concept of 'smart city beacons' and the importance of Bluetooth in ensuring tech can work smoothly throughout the smart city environment.

**How important is connectivity to your tech solution? How would use a beacon to support your tech?**

[www.guidedogs.org.uk](http://www.guidedogs.org.uk)