



10<sup>th</sup> of September, 2020

# **Workshop on Communication in Accessible Urban Transport**

## **AAATE and Trips Project**

**ICCHP 2020 conference**

Presentation by Steven Barbosa on behalf of UITP



10<sup>th</sup> of September, 2020

## MEETING AGENDA

- STATE OF ART OF ACCESSIBILITY IN PUBLIC TRANSPORT IN EUROPE
- CASE STUDY: RATP
- CASE STUDY: MyAid APP
- CASE STUDY/ TRANSDEV



**ACCESSIBILITY IN URBAN PUBLIC  
TRANSPORT  
CONTEXT**





## THE ROLE OF PUBLIC TRANSPORT

- Public Transport being the one closer to the citizens can play an important part on understanding the local needs and specificities to ensure better investment towards accessibility.
- Public Transport being the enabler of movement for the citizens inside their cities, and therefore for social cohesion and inclusion, must ensure transportation for all citizens.



## CONTEXT

- Persons with disability represent in the European Union 17.6 % of the population.
- This share is likely to increase with an ageing population, given that people are more prone to develop disabilities with age .
- The EU Charter of Human Rights (articles 1, 21 and 26) and the Treaty on the Functioning of the EU (articles 10 and 19) respect the right of all citizens, including those with disability, to fully participate in society.
- Specific legislation also exists to better include citizens with disabilities in public transport (i. e. Rail: EU Regulations No 1371/2007; 1300/2014. 2016/797 ; Bus (Note: Applicable mostly on long distance travel): EU Regulations No 181/2011 (Bus) ; Multimodal EU ITS 2010/40 (missing an important directive).

## LEGAL FRAME

- The progresses made in terms of legislation are hard to be translated into progress.
- There is no standard definition in the EU of “Persons with Reduced Mobility” or “severe disability”. The interpretations are different amongst EU Member-States, and even within in some of them at regional and local levels. Many of these discrepancies are translated in laws, provisions and statistics.
- Thus, making it difficult to have a clear overall picture of the situation. European Commission when analysing accessibility for disable persons in the EU, out of 77 different cities, only 32 could provide information on the type of accessible services they offer.
- Besides that, the general approach taken by policy makers towards persons with disability also doesn't help. There are different individual medical problems which require individualized solutions.
- Disabled population include a large variety of physical, mental and sensorial problems that cannot have “one-solution-fits-all”.





## LEGISLATION IS NOT ENOUGH....

- Awareness is much necessary at political level, but also by society in general.
- Nevertheless, studies show that there is an overwhelming public support for more investment by public authorities on eliminating physical obstacles that make the lives of persons with disabilities and elderly difficult (94% EU citizens).
- **The advancements on the EU legislation in terms of inclusion of disabled persons are extremely relevant, once it means more investment in accessibility in public transport.**
- The EU Accessible Act and the Disability Work Package 2020-2028 are important political tools that need follow-up to understand what is coming next.



## WHERE TO START?

Nevertheless, persons with disabilities still cannot fully travel to live, work or study within the union. The European Parliament's research on Accessibility in Public Transport and Tourism in Europe highlights:

- the need for intervention at EU level on the lack of accessible information
- the low use of apps and social media by PT operators,
- low accessibility in suburban and rural areas
- significant barriers in interchanges and intermodal hubs.

## ACCESSIBILITY IN PT

- In Europe, while some transport networks are already fully accessible, many are still working to provide fully accessible public transport. It's a difficult task, when considering that in many European cities public transport infrastructure is more than a century-old.
- Progress has been made in vehicle technology, namely buses, while as the life span of trams is relatively long, the conversion of fleets from high-floor to low-floor vehicles has been much slower.
- Other improvements include ramps, lifts and kneeling systems.
- Colour contrasting, visual and audible information systems for people with sensory impairments have also been increasingly implemented.
- Another approach taken by Public Transport operators was the offer of dedicated services. Even so, while special dedicated services are often the only feasible option for persons with severe disabilities, the inflexibility of such systems also become obstacles.



## PT: A NEW APPROACH TOWARDS ACCESSIBILITY

- Public Transport changed its perception towards accessibility, focusing on an inclusive design for all.
- This change of perception came along with a change of the corporate culture, by recruiting diversity Managers. Fully time professionals working on the Public Transport accessibility of groups facing social exclusion, namely disabled persons, but also addressing gender, elderly, sexual orientation, race, religion, amongst others.

**UITP Business and Human Resources Committee promotes a Working Group on Diversity and Inclusion, with Members being Public Transport Diversity Managers**





# RATP

CASE STUDY



# RATP NETWORK ACCESSIBILITY

- Currently, people with reduced mobility (PRMs) and wheelchair users in particular, can use:
  - The entire Paris bus network (63 routes)
  - About 78% of the suburban bus network (≈220 routes)
  - The entire tram network (7 lines – 186 stations)
  - 63 out of the 65 RER stations operated by RATP (the 2 remaining stations soon will be accessible)
  - Metro line 14 (undergoing an extension)
  - And soon, metro lines 4, 11 and 12 extensions



# THE “EQUISENS” PROJECT

The EQUISENS project launched by RATP aims to help visually impaired passengers to get around more easily in all metro and RER stations.

- **Sound beacons installed**

- **Outside**, to identify entrances: they indicate the station name and the lines it serves.
- **In the reception hall**, to identify the information counter and the voice- interface ticket machine.

These beacons are activated by the universal remote control

- **Secured stairways**

- Installation of tactile warning strips at the top of each flight of stairs
- Anti-slip stair edges in contrasting colours
- First and last risers in contrasting colour
- Handrail extended horizontally beyond the first and last step of the stairs
- **3,540 stairways to be adapted**



# THE "EQUISENS" PROJECT

- Identifiable platform intercoms
- Installation of interception strips crosswise to the platform, at the intercoms (themselves equipped with a sound beacon)



## The EQUISENS project in figures



1,150  
sound  
beacon  
s



8.5 km  
tactile warning  
strips  
(250 nights'  
work)



163 km stair  
edges  
(850 nights'  
work)



3.25 km  
interception  
strips

≈ 35 million euros of work

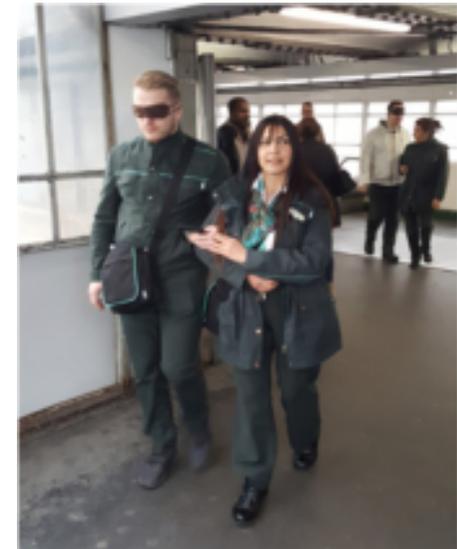


## STAFF TRAINING

No machine can ever replace the quality of human contact. Therefore, RATP is committed to continuously raising the awareness of public-facing staff in welcoming people with reduced mobility.

• **Training courses** are set up to meet the specific needs of PRMs and provide them with the necessary assistance:

- Awareness of the different disability types
- Teaching the right gestures and the right words
- Role playing
- Handling accessibility equipment



# STAFF TRAINING

- A “tool box” is made available to staff, in the form of
  - A guide to good practice
  - Educational videos



- CAP'Handéo certification process under way



Very positive feedback from staff members who feel valued and managers who observe the involvement of the teams



# ➤ SIGNAGE

Signage, an indispensable element allowing passengers to find their bearings in transport facilities

- Clear and consistent vocabulary across all networks
- A colour for each line



- A colour code for signposting:
  - White background for services
  - Blue background for exits and other lines/modes
  - Grey background reserved for special services (lifts, toilets...)



# > SIGNAGE

- “Hypersigns” to help find bearings in complex environments

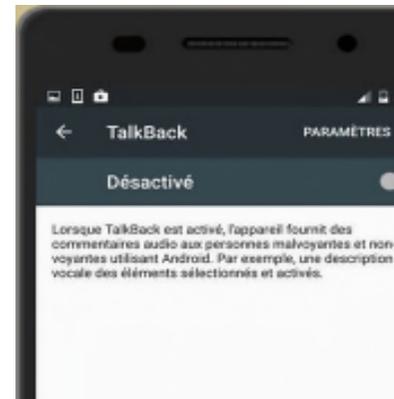
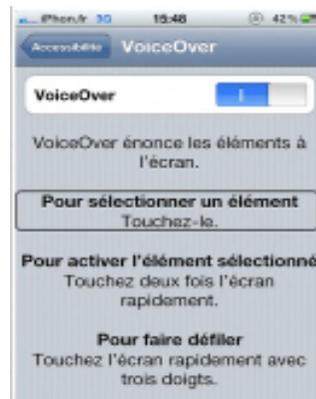


- Pictograms to help understand messages



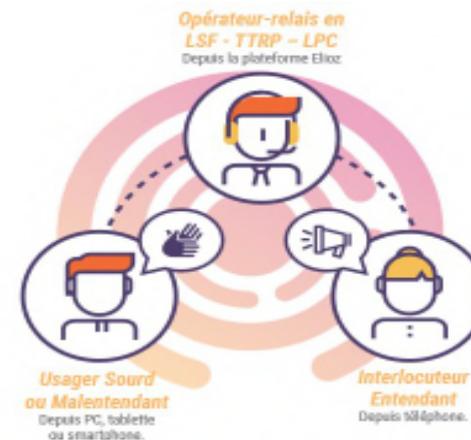
## ➤ DIGITAL ACCESSIBILITY

- The “VoiceOver” (iPhone) and “TalkBack” (Android) apps allow online information to be accessible to the **visually impaired**, through a vocal description of the items selected and activated. For example:
  - Itinerary search
  - “Accessible PDF” versions of online documents (e.g. “Accessibility education” handbooks)



# DIGITAL ACCESSIBILITY

- **3224 :**  
Since 2010, RATP has had a platform to allow communication with the **hearing impaired**.
- An operator who knows sign language acts as a relay between the deaf or hard of hearing user (via PC, tablet or smartphone) and the RATP representative (via telephone).



# TRIALS AND INNOVATIONS

The “Audio companion”: a mobile app for indoor vocal guidance, not requiring geolocation

- Guidance within the station to get to a platform, an exit, a connection
- A trial in 2 versions
  - “Audioguide” version suited to the visually impaired
  - “Multiprofile” version with a choice of routes adapted to the selected profile (e.g. pathway equipped with lifts or escalators...)
- Deployment planned on metro line 11, which includes very diverse configurations: existing stations with and without lifts or escalators, new stations on the extension accessible to wheelchair users...





# MyAid APP

CASE STUDY





## SWISS INNOVATION LAB ANNOUNCES MYAID APP

A system and software house offering innovative beacon solutions, has released its first version of MyAid - a solution that aims to simplify the usage of public transport for people with disabilities and elderly.

Difficulties with ticket purchasing and validating when entering the bus in the back  
getting on the right bus while at a busy stop, seeing/hearing the next stop information for disembarking on the right station etc.

In order for public transport not to be a source of stress or anxiety for passengers, implementation of a solution that'll completely change the journey experience from getting in the vehicle to the end of the journey is necessary.

MyAid app, available both for Android and iPhone, works as an aid which is allowing passengers to be informed and request support via their smartphone. Once the passenger has requested support, the LED lamp on the MyAid panel lights up and informs the driver that assistance/action is needed. Four LED lights can be customized to increase driver awareness in situations such as:

In Proximity – indicating that there is a person with disability/ elderly person in proximity of the bus,  
Boarding/Deboarding - to indicate that a person has requested boarding support or, when travelling, deboarding support,  
Priority seating - to indicate that a person needs priority seating,  
Stop the bus/Emergency help - to indicate request to stop the bus at the next station as well as to inform the driver in case of emergency.  
Communication via the app can be customized based on the passenger's needs by using voice commands, vibration notifications or audio notifications.



 **TRANSDEV**  
CASE STUDY



# ➤ TRY BEFORE YOU RIDE

## Melbourne

- **Aim:** To trial to make persons with disability feel welcome with public transportation
- **Client:** Melbourne's major public transport providers including Public Transport Victoria, Trams Trustee, Metro Trains and Transport Melbourne
- **Operating authority:** Transport Melbourne (TMO)
- **Relationships:** 6Stn team
- **Description of the Activity:** An annual joint initiative to assist people with accessibility issues to use public transport by having people with modes of public transportation (Aussies) able to practice boarding off modes and ask representative questions to help build their confidence
- **Results:** The event is publicised through the Transport Australia website and other distribution channels. In 2016, only people under the legal age were allowed to attend 10.



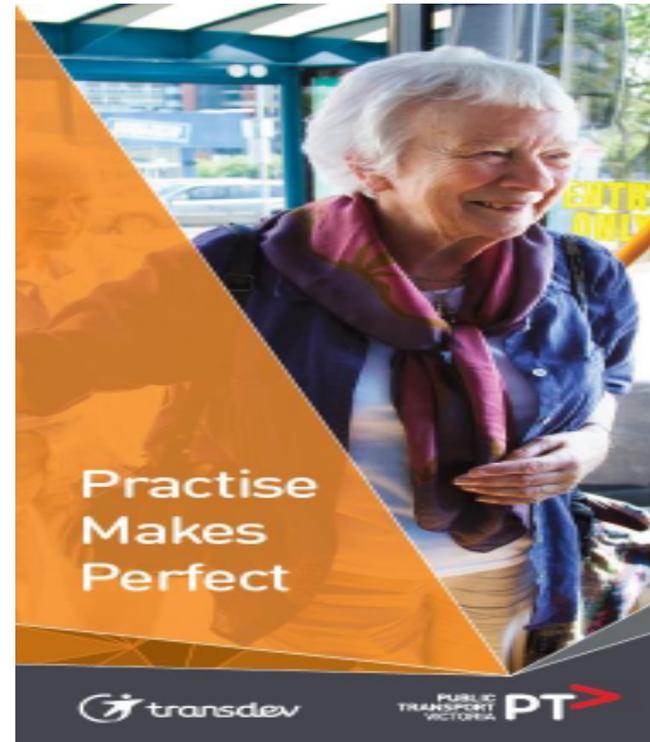
Try Before You Ride is an important event to help people with accessibility issues use the local bus network



# ➤ PRACTICE MAKES PERFECT

Melbourne

- **Activity:** bus education and safety
- **Operating subsidiary:** Transdev Melbourne (TDM)
- **Ridership:** 26 million
- **Description of the Activity:** A program that provides bus education and safe traveling tips for individuals and groups who have special needs. It is offered to anyone who would like to become a more confident traveler by familiarizing themselves with our buses and is very adaptable as individual or group sessions can be arranged
- **Results:** The program has received positive feedback and engagement from our stakeholders.



# > CUSTOMER CARE

## Melbourne

■ **Activity:** Customer injury cards

■ **Operating subsidiary:** Transdev Melbourne (TDM)

■ **Ridership:** 26 million

■ **Description of the Activity:** A customizable card for some regular know with special needs. The goal of these cards is help drivers identify and aid unconventional walking aids that are generally less known. Showing the mandates the driver to lower the bus ramp without questions or argumer walking aid.

■ **Results:** A high decrease in complaints from these specific customers, cases we have not received any since we provided them with the card. A Victorian Public Transport Ombudsman now mentions the card as an ex: practice in terms of customer service in their induction program.



ATT: Transdev drivers

This shopping trolley is my walking aid. I need the ramp to be lowered to get on and off the bus. Please do not try to lift the trolley for me. Thank you for your understanding.

**Endorsed by Transdev Management**



**Hello Route 901 Bus Drivers,**

This is my walking frame. Please lower down the ramp and wait until I am seated before moving off.



**Endorsed by Transdev Management**  
21 May 2014



# INTERMODAL TRANSPORT AND VISUAL IMPAIREMENT

France (Paris, Lyon and Grenoble)

- **Activity:** Study aiming at understanding the needs of visually-impaired
- **Client:** Visually-impaired passengers
- **Operating subsidiary:** Ile de France, Grenoble, Lyon



■ **Description of the Activity:** multimodal transit hubs are characterized by the many transport modes involved in the same location: bus, tramway, metro, train. The objective of TIMODEV study is to analyze the perceptions of the visually impaired passengers in order to inform future accessibility public policies in the networks. Transport authorizing authorities would be provided with ergonomic recommendations to assist capacity.

■ **Results:** Good relations with associations were formed and a tailored approach was developed for visually impaired passengers in multimodal transit hubs.

Remote used in the field of experimentation, main tool to help the visually impaired passengers in multimodal transit hubs.



Tout au long de son parcours, notre voyageur aura sa télécommande en lui. Celle-ci sera finalement son principal outil d'aide lui permettant d'activer les dispositifs sonores sur sa route.



Les télécommandes sont essentielles pour activer les Coléas et les Pous sonores et ainsi être utilement.



# > RECONSTRUCTION OF BUS STOPS

Heidenheim, Germany

- **Activity:** Reconstruction of bus stops
- **Client:** Mobility-impaired passengers
- **Operating subsidiary:** Heidenheimer-Verkehrsgesellschaft (HVG)
- **Description of the Activity:** Bus stops within the operation were reconstructed to provide better accessibility for persons with disabilities. The floor levels on buses and at bus stops were adjusted to make mounting the bus easier. This activity was organized by the local PTA.
- **Results:** Good relations with associations were formed.



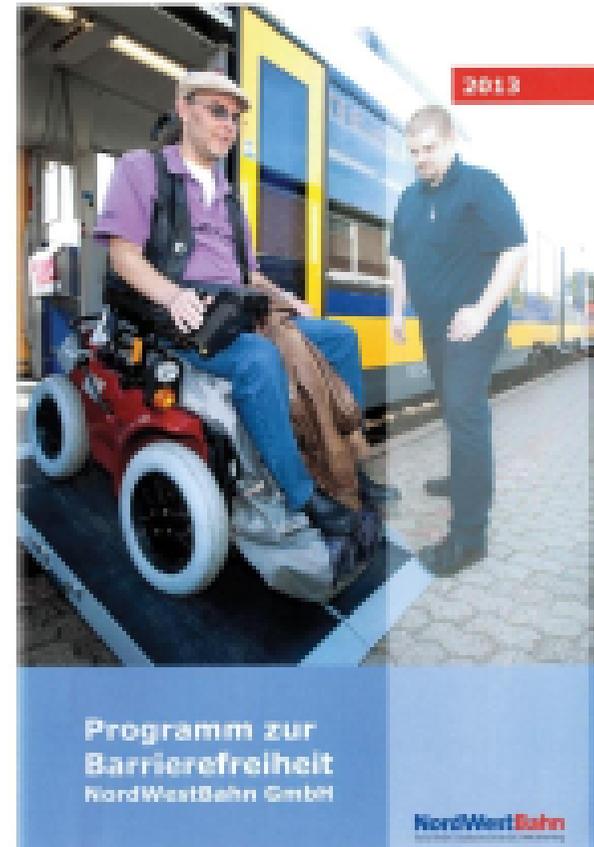
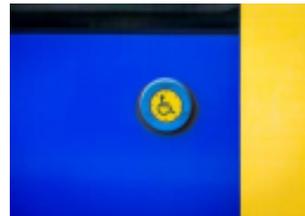
# > PROGRAM FOR ACCESSIBILITY

Germany (Rail passengers)

- **Activity:** Program for accessibility
- **Client:** Mobility-impaired passengers
- **Operating subsidiary:** Nord-West-Bahn (NWB)

■ **Description of the Activity:** This is an acoustic onboard passenger information system designated to provide friendly train access to persons with disabilities. Additional features include train boarding and train exiting assistance on demand; Transdev employees are trained and qualified to assist.

■ **Results:** Good relations with associations were formed.



# ➤ ASSISTED RIDING

Germany (Rail Passengers)

- **Activity:** Campaign "Betreutes Fahren"
- **Client:** Mobility-impaired passengers
- **Operating subsidiary:** Ostseelandverkehr GmbH (ola)

- **Description of the Activity:** A campaign focusing on awareness and service for persons with disabilities. The campaign has Assisted Ride" Zones in every train and makes sure all employees are trained to handle various situations that may occur with persons with disabilities.
- **Results:** Transdev received a lot of press coverage and positive feedback for the campaign.





# LUAS LIVE INFO, REAL TIME PASSENGER INFORMATION

Dublin (Light Rail)

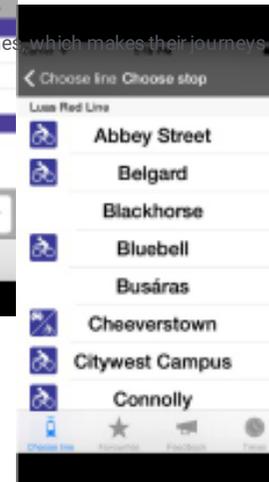
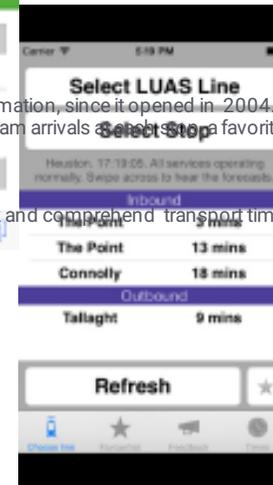
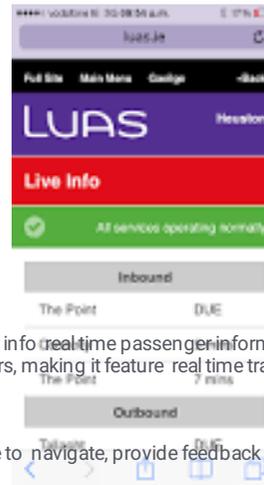
Activity: Smartphone application

Operating subsidiary: LUAS

Ridership: 32,4 million

Description of the Activity: Luas has had live info real time passenger information, since it opened in 2004. In 2013, LUAS specifically adapted the app for vision impaired passengers, making it feature real time tram arrivals and departures, a favorite list of stops, direct feedback, and timetables.

Results: Passengers with disabilities are able to navigate, provide feedback and comprehend transport times, which makes their journeys easier.



# > PASSENGER CHARTER IN BRAILLE

Dublin (Light Rail)

■ **Activity:** Information in braille

■ **Operating subsidiary:** LUAS

■ **Ridership:** 32,4 million

■ **Description of the Activity:** LUAS provides a version of Passenger Charter in braille for customers with vision impairments

■ **Results:** People call LoCall Luas Customer Care to receive free braille passenger charter if they would like to know more about how they can access public transportation.



## As a passenger, you have rights. We commit to:

- 1. Provide you with a safe and comfortable tram journey.
- 2. Provide you with real-time passenger information at stops 99% of the time.
- 3. Respond to all your letters and emails within 1 week.
- 4. Provide you with a 99% reliable tram service and publish our performance every 12 weeks.
- 5. Give 1 week notice to passengers/residents in the event of planned maintenance work.
- 6. Inform and update you in case your tram journey is going to be longer than usual.
- 7. Ensure that Luas meets the highest standards of accessibility and that our staff are trained in disability awareness to assist you if required.
- 8. Clean the trams every night and every stop at least once a day.
- 9. Provide you with an environmentally friendly transport option, releasing 3.5 times less CO2 than taking the same trip by car.
- 10. Advise you on the cheapest fare for you if you contact Luas Customer Care or visit [www.luas.ie](http://www.luas.ie)



## We have rights too and ask you to:

- 1. Be in possession of a valid ticket on board the tram.
- 2. Respect Luas staff, other passengers and property.



# > THE ARNHEM EXPERIENCE

Arnhem Nimegan, The Netherlands (Bus)

■ **Activity:** Mobility for persons with disabilities

■ **Operating subsidiary:** Connexion – Breng

■ **Ridership:** 1,8 million per annum

■ **Description of the Activity:** Tools that have been created to improve mobility for special needs groups are the following: the GoOV App, the Buzz Buddy and a personal travel assistant. The experience is designed to provide support to special needs groups that can potentially use public transportation. It is all about people, their independence and their self development.

■ **Results:** In the long term, this service will create satisfied, self supportive customers and will become a good showcase for local governments



## GoOV App

- Customizable door-2-door navigation
- Supervisor web portal
- Emergency button (direct contact with supervisor/call center)
- Call center intervention via real-time trip monitoring through Google Maps



## Buzz Buddy

- GPS tracker
- Supervisor/parent trip tracking vis Google Maps
- Emergency button (phone connection with supervisor)

# ➤ BEACON TECHNOLOGY

Arnhem Numegan, The Netherlands (Bus)

■ **Activity:** Beacon technology in support of customer experience

■ **Operating subsidiary:** Connexion – Breng

■ **Ridership:** 1,8 million per annum

■ **Description of the Activity:** Beacons function to improve Customer Experiences by creating personal experiences (welcome notification – delay notification) and integrating customer journeys with third parties.

■ **Results:** Beacon technology has proved to be a unique selling point to tender bids and is focus on service level innovations. The Netherlands are currently implementing and developing various beacon technology programs (E.g. StappOver, Credits4Miles, CityBeacon and SmartNavigation)



## What Are Beacons & How Do They Work?



# > SMART NAVIGATION

Arnhem Numegan, The Netherlands (Bus)

■ **Activity:** Beacon technology

■ **Operating subsidiary:** Connexion – Breng

■ **Ridership:** 1,8 million per annum

■ **Description of the Activity:** Hermes and ProRail have integrated their beacon systems to introduce frictionless flows in customer's journey by identifying an individual's activity in the network. The goal is to create a national standard for blind/disabled people to get from bus stops to train platform by making all stations safe and accessible.

■ **Results:** SmartNavigation is under development as a pilot in Arnhem. It will continue to receive active support for the next steps of the project. Additionally, Breng would like to incorporate beacon infrastructure in its buses.



# > DEAF AWARENESS TRAINING

Auckland, New Zealand (Rail Passengers)

■ **Activity:** Disability awareness training

■ **Client:** Royal New Zealand Foundation of the Blind (RNZFB) and CCS Disability Action

■ **Operating subsidiary:** Transdev Auckland

■ **Ridership:** 15,5 million

■ **Description of the Activity:** Disability Awareness training for customer service staff. The training focuses on how employees can best assist passengers with vision and mobility impairments. Later, Transdev Auckland paired with Deaf Aotearoa to create an additional training program to help passengers with hearing impairments including identifying deaf passengers and signing.

■ **Results:** An intensive 4 hour deaf awareness course for Transdev employees, which is part of the standard induction procedure for customer-facing staff.





COFFEE?





**QUESTIONS?**



**THANK YOU!**

