

# TRAVEL FOR ALL

THE COMMITMENT OF  
EUROPEAN PUBLIC TRANSPORT





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# FOREWORDS



Morten Løkkegaard,  
MEP Rapporteur for the European Accessibility Act

Dear readers,

We have a common goal: to make Europe more accessible. As Rapporteur of the European Accessibility Act, it has been my aim from the outset to improve accessibility, because I see accessibility as a precondition for a free and independent life. We cannot create accessibility overnight, but the Act is hopefully taking a big step in the right direction.

The European Accessibility Act aims to improve the functioning of the internal market for accessible products and services by removing barriers created by divergent legislation and preventing the creation of new barriers which are likely to happen due to the obligations Member States have under the United Nations Convention on the Rights of Persons with Disabilities (UNCRD). Often the Union acts are a posteriori to remove barriers created by member states over the years. This legislation is an example of preventive action.

From the outset my primary aim was to strike the right balance between the needs of people with disabilities, creating possibilities for innovating new products and services and at the same time reducing disproportionate costs for economic operators.

When it comes concretely to the transport sector, I have from the beginning on tried to ensure that when operators were already subject to European legislation on accessibility, The European Accessibility Act would not come as a supplementary layer. Moreover, it was the aim to remove duplications of requirements for economic operators and potential inconsistencies between requirements. Much to my regret the European Parliament did not completely agree with me on these crucial points, but this fight for legal clarity is not over. It will be on top of my agenda when we start the negotiations with Council in the new year.

For many years there has been too much talk and too little action in this field, which was why I considered time had come to deliver. We are still waiting for Council to find their position before we can start negotiating and finally reach a compromise and deliver concrete results for the many people living with disabilities all over Europe.

To this end, it is my hope that the Act will also work as an innovation booster and encourage big and small businesses in Europe to innovate and come up with solutions that fulfil every single user's needs.

Morten Løkkegaard



Ulrich Weber,  
Chair of UITP EU Committee

In our growing and increasingly fast-paced cities, access to public transport (PT) is a key factor of mobility and social inclusion. In this regard, the PT sector has an important role to play, to ensure that all citizens can move as smoothly as possible in their environment.

Ensuring the accessibility of urban transport is a big challenge, which the PT sector has been actively taking head on. While some transport networks are already fully accessible, and still striving to improve their measures by integrating the newest technologies available, many more are on the right path to provide fully accessible public transport.

With that in mind, some specificities of the PT sector cannot be overlooked when implementing new measures. Networks and vehicles are first and foremost designed for the purpose of providing fast and reliable mass transit solutions for millions of passengers every day. Furthermore, the modernisation of PT lines often involves expensive large-scale adaptation of infrastructure which, in some cases, is more than a century-old. For instance, the nature of the existing underground infrastructure, or of the road layout at bus stops may sometimes hinder the necessary modifications to make them fully accessible.

Along with voluntary measures, EU and national legislation can be an important lever to complement the large investments that public transport operators and competent authorities are doing to ensure all passengers can travel safely, easily and spontaneously. However, achieving completely accessible transport networks across the EU requires a thorough understanding of those local needs and specificities to ensure finite levels of investment are directed to where they are most useful. For instance, in some cases, transport operators offer tailor made solutions, such as dedicated surface transportation. These alternative solutions, which have proven to be efficient, make passengers with special needs more confident when preparing their journeys and during the journey.

For these reasons, all networks may not apprehend "accessibility" in the same way. Although interpretations can vary between broad or more narrow definitions, we have found with this study that all networks work in a continuous improvement frame of mind. Yet more than PT operators' willingness is needed to offer quality services to all of their passengers. Active support from local, regional and federal governments and access to the necessary resources, including sustainable funding, are indeed critical factors in the successful implementation of long-term infrastructure works and fleet renewals.

With this brochure, UITP is putting forward the variety of solutions that the PT sector is implementing, across Europe. This document will be updated to keep up with the latest best practices, and will serve as a chronicle of the progress that is being made.

I hope that this brochure will encourage many more networks keep up their good efforts and will bring a useful contribution to making accessibility a reality in all transport modes.

Ulrich Weber



# TRAVEL FOR ALL: country overview



# AUSTRIA

## WIENER LINIEN, Vienna

Composition of network: Bus, Metro, Tram

- ▶ 1st metro line: 1978
- ▶ 161 lines, all modes combined
- ▶ 5,392 stops
- ▶ Covers the city of Vienna, with an overall length of 1133.8km
- ▶ 954,2 million passengers per year (2016)



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### METRO



Vienna's metro stations and metros are **100% accessible**.

Following an internal initiative, Wiener Linien (WL) is purchasing **new accessible vehicles** to replace older ones, which each cost €11 million. This project is set to be completed in 2023. These modern units are barrier-free. The modern V-type units already operating on the underground are also barrier-free. Besides offering **more space for passengers** in wheelchairs and with prams, the gap between the edge of the platform and the vehicles has been minimised and **extendible ramps** have also been installed.

Even though Wiener Linien's metro network is already fully accessible, internal research projects are being conducted in order to **keep improving accessibility**. They are funded by the Austrian Ministry for Transport, Innovation and Technology and by the Austrian Research and Promotion Agency. The projects cover metro stations and their immediate surroundings, and will be implemented in 2018.

**Access to all underground stations and over 95% of all tram and bus stops is now possible barrier-free by means of ramps and lifts. Tactile guidance systems** are available in all metro stations as well as in many tram and bus stops, and **colour contrasts** are used in vehicles.

### TRAM



**63% of tram vehicles are accessible**, with the use of manual ramps. Following an internal initiative to improve the fleet's accessibility, WL is purchasing new trams, called Flexity. The total costs come to €562 million, including a maintenance contract for 24 years. The program will be completed by 2019. The ULF (Ultra Low Floor trams) have now been operating in Vienna for more than 15 years.

At the moment, **every second tram is accessible**. The **accessible vehicles are specifically highlighted** on the digital departure time information display at tram stops.

**90% of tram stops and stations are accessible**. To further improve the tram network's accessibility, WL is improving its **tactile guiding system**, installing more lifts in tram stations and **accessible ticketing machines** in the new trams.

### BUS



The bus fleet of WL consists **exclusively of low-floor vehicles** which can be lowered even further by hydraulic means when required. The low entry height is also helpful for elderly people and passengers with prams when boarding or alighting. A ramp, which must be placed by the driver, allows passengers in wheelchairs to access the buses.

## TICKETING MACHINES

**All of the 865 ticketing machines in the metro are accessible for wheelchair users.**

Commuters with reduced mobility can also use **accessible apps, ticket centres and websites** for the purchase of their tickets.

## INFORMATION TOOLS

WL's apps (e.g. Qando) and website (<http://www.wl-barrierefrei.at/>) are accessible via more than one sensory channel.

WL is developing a **multi-sensory info-point project, Straßenbahnhaltestelle der Zukunft** ("Tram stop of the future"). The equipment is tailored to the senses of touch and hearing, for the benefit of persons who are blind or visually impaired. A **tactile plan** shows stations' immediate surroundings, and information about the stations, and metro-, bus- or tramlines is available via **voice output** as well as in **large font** with appropriate illumination. These info-points display **real-time and route information** on Vienna's public transport, based on their location, and available in multiple formats, i.e. visual, audio, tactile, and via sign language. The user interface, including push buttons and QR codes, is placed conveniently for wheelchair users, and can also be used by passengers who are blind.

The average costs for one multi-sensory info-point come to € 50,000. Two info-points have already been installed on the network.



© Wiener Linien

The **POPTIS (Pre-On-Post Trip Information System) guidance system** for blind and partially sighted individuals allows route descriptions to be accessed via the barrier-free version of WL's website.

The **website** provides up-to-the-minute news updates and other relevant information. The relevant pages have been specially designed to be viewed using **screen-reader (text-to-speech) programs** which automatically read out the text so that passengers who are blind or partially sighted both have unrestricted access.

WL's **apps** are also accessible for persons with sight impairments, e.g. the Qando-app provides a screen reader. On Android and iOS smart phones, the screen reader of the operating system can now read out loud the sections of text that users touch with their fingers.

The **departure time monitors** also communicate the distance to underground stations as well as bus and tram stops. Directions are provided audibly using a clock-face system; for example: "The Neubaugasse stop is 109 meters away at 6 o'clock". This function makes it easier for users with sight impairments to get around in the city.

With the project **aim4it, an app offering routing and rerouting information by more than one sensory channel** is being developed. Passengers with reduced mobility will be able to create a user profile; in case of a service interruption they will receive information and alternative route recommendations on their smartphone, in their preferred communication mean, i.e. sign language, audio announcement...

## HUMAN ASSISTANCE

Tram and bus drivers take **annual refresher trainings** which include assisting wheelchair users boarding and alighting from vehicles.

## INNOVATION

A pilot project called "E-paper", aimed at improving passenger information at stations by **replacing printed timetables** is in progress. The E-paper system will show the current timetables and will be equipped with a text-to speech mode that will enable persons who are blind or visually impaired to receive information by voice output.

Other research projects are being conducted to improve the accessibility of public transports in Vienna for persons with cognitive disabilities. For example, WL is taking part in the project Demenz in Bewegung ("Dementia in motion"), which focuses on the mobility of people with dementia.

Find out more about Wiener Linien's accessibility strategy in the "Best practices" section of this report!



# BELGIUM

## STIB, Brussels

- Composition of network: Bus, Tram, Metro, TaxiBus
- ▶ 1st metro line: 1976
  - ▶ 82 lines, all modes combined
  - ▶ 2,300 stops
  - ▶ 212km<sup>2</sup>
  - ▶ 369, 5 million passengers per year



### METRO



**100% of the metros are low-floored vehicles**, but horizontal and vertical gaps are still challenging. Some form of assistance may therefore be required for wheelchairs which cannot overcome these gaps.

Following an internal study, STIB is planning on reforming its assistance services by the end of 2019. This will include notably the improvement of **information signs in, around and outside vehicles**.

Furthermore, a study on the coherence of different generations of equipment is currently ongoing.

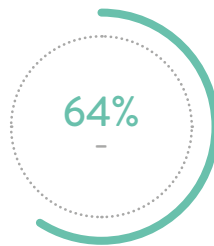
### TRAM



**55.4% of trams are accessible.** The gap between the vehicle and the platform is the main obstacle to making all stations accessible.

STIB is currently testing a **bridging plate prototype**, which could be installed on platforms, at 10 tram stops. Implementation will depend on the test results, by the end of 2017. However, due to the curved layout of some stops, the gap between the platform and the tram will remain problematic.

### BUS



**64% of buses are accessible.** The question of accessibility has been taken up by the Business Unit Bus: the maintenance of access ramps is being improved on, and staff is provided with specific training. Furthermore, STIB is in **systematic and direct dialogue with NGOs**. Various improvement projects are underway, including tests of user feedback on access ramps through the vehicles' IT system.

An internal document on **bus stops standards** is designed to improve the network's accessibility, taking into account regional urban planning rules as well as in-house principles. **Any new installation which is subject to urban permission must comply with this document.**

STIB is continuously working to improve the accessibility of its bus stops. Given the layout of the city, with its sloped or curved roads, for instance, making 100% of the network accessible is unfortunately unrealistic.

STIB has committed to adopting the **UN principles on the rights of persons with disabilities**, ratified by the Belgian government in 2009, demonstrating the company's pro-active approach to improving its network's accessibility.

## DEDICATED SERVICE

TaxiBus is STIB's on-demand door-to-door public transport alternative for persons with reduced mobility, operated by STIB's own minibuses and some of Brussels' taxis. Many vehicles have been adapted to carry wheelchair users. After registration, trips can be booked by phone or online. The service is available Monday to Saturday, from 5am to 1am.

## TICKETING MACHINES

Transport is **free of charge**, nationally, for persons who are blind.

420 ticketing machines are in use on STIB's network, all of which are **accessible to wheelchair users**.

For more convenience, sales offices have **accessible ticket counters** and are fitted with **induction loops** for hearing aids. Tickets can also be purchased online.

## INFORMATION

**Visual information** aboard vehicles is systematically translated into **audible messages**, and audio messages are transcribed in visual format as much as possible. In some instances, staff may be required to share information on the field, which cannot be guaranteed to be understandable by the whole population.

STIB limits the placing of advertising posters on vehicles so as to enable people who need it to have good visibility of the outside environment.

**"AccessiBus"** is an information system designed to improve accessibility while limiting the need for infrastructure works. **Pictograms** are used on bus stops to inform commuters on their **accessibility status** – which are either suitable for autonomous use, or use with some assistance. By 2022, AccessiBus information should be available on all lines. In the same manner, **AccessiTram** is being developed.

The accessibility of websites and applications should be considered from the very start of the project. Failing to do so makes it more difficult and costly to implement.

## HUMAN ASSISTANCE

STIB is currently setting up a program which will provide **assistance, upon request**, between departure and arrival stations.

The ongoing reform project also includes plans to provide **staff training** related to accessibility issues, including situational exercises.

Besides tactile paths and speech synthesis which are being implemented, STIB collaborates with **locomotion instructors** to provide commuters with reduced mobility with coaching on how to use public transport. STIB also facilitates the **training of guide dogs** by granting free public transport access to their trainers and host families.

## INNOVATION

STIB took the opportunity to reflect on accessibility issues during two hackathons which took place in 2017 – "Hack my Ride", organised by STIB, and "Hack Belgium" in partnership with IBM.

Several innovative ideas came out of these exercises, such as an app which would allow its users to receive or report notifications of malfunctions or issues on the network, and provide accessible itineraries for wheelchair users.





# BELGIUM

## TEC, Wallonia

- Composition of network: Bus, Tram
- ▶ 781 lines all modes combined
  - ▶ 16,000 stops
  - ▶ Wallonia, 18,784km<sup>2</sup>
  - ▶ 262 million passengers per year



The progressive modernisation of the tram **fleet will be finalised in 2019**.

TEC has initiated the **renewal of stations and stops** throughout its network. In Charleroi, for example, where the adaptation is in progress, lifts are being installed.

The future tram of Liège, expected to open in 2022, will have accessible vehicles and stops.



85% of TEC's own buses are accessible, and **the fleet will be fully accessible by 2020**.

Following an internal initiative, the **inventory of the 32 000 boarding areas** (both directions of each bus stop) is currently underway, to determine their level of accessibility, and bring them up to accessibility standards. As the adaptation is not feasible on the whole network, the option of moving stops where accessibility is possible is considered and discussed with PRM associations.

**Pictograms** are used on bus stops to indicate whether the designated stop is accessible autonomously or with some assistance, and this information is also available on the website. Buses which are accessible feature a blue pictogram on their front.

## TICKETING MACHINES

182 ticketing machines are useable on the network, all of which are accessible. Tickets can also be purchased online.

## INFORMATION TOOLS

Passenger information, including real-time information, is available online on TEC's **website**, via **smartphone**, as well as on **visual displays** in vehicles and in local **information centres**.

At the moment, the website is partially accessible, and its renewal is planned for 2018. The new website will comply with the Belgian standards set by "AnySurfer", a project of Blindenzorg Licht en Liefde vzw (BLL), a service delivery organisation for persons who are blind or partially sighted, operating in Flanders and Brussels.

Furthermore, a **dedicated smartphone application** is in development.

## HUMAN ASSISTANCE

TEC provides **on-demand assistance services**, notably for accessing vehicles.

Bus drivers receive **continuous and annual training**, with regards to the different types of disabilities and how to interact with passengers with reduced mobility.

## DEDICATED SERVICE

A dedicated fleet of 104 adapted minibuses, operated by social welfare associations, provides door-to-door services.



# CZECH REPUBLIC

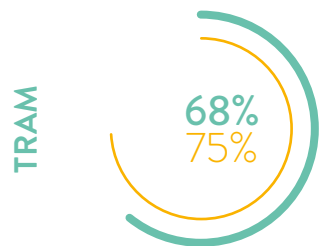
## PMDP, Pilsen

Composition of network: Bus, Tram, Trolleybus

- ▶ 49 lines, all modes combined
- ▶ 339 stops
- ▶ Covers 220km<sup>2</sup>
- ▶ 107 million passengers per year



© PMDP



**99% of buses and trolleybuses and 68% of trams are accessible. Full accessibility is set to be achieved in 2018 for buses and trolleybuses, 2030 for trams.**

Accessible vehicles were designed with **at least one low-floor entry point**, with an access ramp. The majority of buses and trolleybuses have 3 or 4 low-floor doors, and have a **kneeling function**.

**75% of tram stops and stations are accessible, and 50% of the bus and trolleybus network is accessible.** PMDP is cooperating with the city of Pilsen to reach **full accessibility of its network by 2050**. Improvements are made within the framework of the national strategy on accessibility, as well as a Public Service Obligation contract with the city regarding the accessibility of public transport.



## TICKETING MACHINES

Up to 280 ticketing machines, out of the 810 useable, are accessible, and **all ticket offices and customer centres are fully accessible for wheelchair users.**

All ticketing machines in the vehicles are located behind the low-floor doors with manual/electric ramp.

## INFORMATION TOOLS

Most urban transport companies in the Czech Republic have **an electronic system for persons who are blind or partially sighted** (for example TYFLOSET). Vehicles, timetables at stops, information panels and underpasses are equipped with this audio system, which “reads out” the relevant information when prompted by passengers’ remote control. Every stop also has its name written out in Braille.

## DEDICATED SERVICE

PMDP provides **individual mobility services** for target groups. Since 2014, four “**SENIOR EXPRES**” cars are available for permanent residents of Pilsen over 70 years old and persons with severe disabilities, including those requiring special care. PMDP also provides **special transport for persons with reduced mobility**. Two vans are indeed dedicated to bringing children with disabilities to school, and other group transportation.



© PMDP

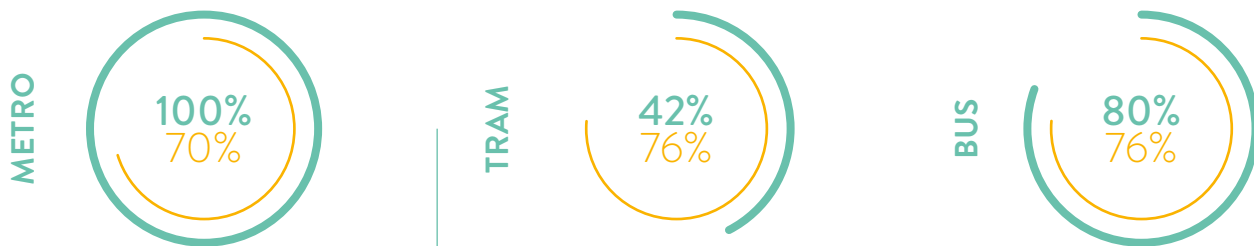


# CZECH REPUBLIC

## DPP, Prague

Composition of network:  
bus, metro, tram, ferries, funiculars

- ▶ 180 lines, all modes combined
- ▶ 1,142 stops
- ▶ Covers the city of Prague, 496km<sup>2</sup>
- ▶ 1, 19 billion trips per year (2016)



**All metros are low-floored, and 70% of the metro network is accessible today.** All stations built after 1991 are equipped with **lifts and/or special platforms**. **Acoustic beacons**, which can be activated by passengers with visual impairments via remote control, are installed in every metro station, and guide them from the corridors to the platforms. **Emphasised safety zones** and guide lines are also part of the platforms' design.

An internal initiative, the City of Prague Strategy, pursues the improvement of the network's accessibility. The main goal of the initiative is to reach **100% of metro stations accessible by 2025**.

**80% of the bus fleet and 42% of trams are accessible. About 76% of the bus and tram network is accessible today.**

DPP is introducing low-floored vehicles (both buses and trams), and making the stops also accessible.

## TICKETING MACHINES

**Public transport in the City of Prague is free of charge for persons with reduced mobility.**

About 500 ticketing machines are useable on the network, all of which are accessible for persons in wheelchairs. Tickets can also be purchased online, via smartphone or SMS.

## INFORMATION TOOLS

100% of the information communicated by DPP is accessible via several sensory channels, and DPP's website is accessible for persons with visual impairments.

All metros, trams, buses and stations are equipped with **visual navigation tools and audio announcement systems**.

## HUMAN ASSISTANCE

DPP staff is trained to assist passengers who have disabilities.

## INNOVATION

DPP has implemented an innovative remote-control activated **navigation system for passengers who are blind**, which informs them on the number and direction of incoming vehicles, while sending the driver an audio signal notifying of the person's intent to board.

## DEDICATED SERVICE

A specific bus line is operated on a regular basis by a fleet dedicated to the free transport of persons with disabilities.



Find out more about DPP's accessibility strategy in the "Best practices" section of this report!

# FRANCE

## TBM, KEOLIS, Bordeaux Métropole

Composition of network: bus, tram, river shuttles, dedicated service for persons with disabilities, bike-sharing scheme, park & ride

- ▶ 78 bus lines, 3 tram lines, 2 river shuttles, 174 bike stations, 23 park & ride facilities
- ▶ 3,300 stops
- ▶ Covers 28 communes in the Bordeaux metropolitan area, representing 57,000 hectares
- ▶ 141 million passengers per year



**100% of the bus and tram fleets are accessible for all passengers with disabilities.** Both river shuttles have dedicated spaces designed to carry **two wheelchair users**.

A program initiated by the Public Transport Authority (PTA) aims at renewing the bus fleet with vehicles accessible by **two wheelchair users**, instead of one. According to the fleet replacement program, 50% of buses will be replaced in 2018. All buses are also equipped with **retractable access ramps**.

**99,8% of the network (tram, bus, sales offices, park&ride) is accessible.** The **improvement of the accessibility of park and ride facilities is underway, and expected to be completed in 2018.** Throughout the network, **tactile strips** are used to mark platform edges.

## TICKETING MACHINES

245 ticketing machines are available on the network, **all of which have the adapted height to be accessible for passengers using wheelchairs**. 28% of those ticketing machines are accessible for clients who are sight-impaired.

## INFORMATION TOOLS

All of the passenger information is available via several sensory channels, including **audio and visual announcements**, but real-time audio announcements still poses some technical difficulties.

A future version of the network's website will include accessible features, as will a new mobile application.

## HUMAN ASSISTANCE

Staff is present on the network, and able to **mentor persons with disabilities**, to help them confidently navigate Bordeaux' public transport system.

Keolis Bordeaux's **drivers are trained on action, posture and assistance in the dedicated reduced-mobility service**, as well as the travel mentoring service.

For several years now, a one-day training on physical, visual and hearing disabilities has been implemented for all staff members who are in contact with customers with disabilities. The training is given in partnership with associations representing persons with reduced mobility, with some of their members taking part in these sessions to explain the difficulties they encounter when using public transport.

The training is divided in three sections:

- A theoretical module: introduction to the legal context and to the different types of disabilities and how to ensure access for persons with reduced mobility



- A practical module: workshops demonstrating the difficulties in the use of public transport, including boarding and alighting from vehicles, and using the dedicated spaces in vehicles.
- A debriefing time between participants and members of the associations.

The feedback from these trainings is highly positive, both from staff members, who acquire a better understanding of issues linked with disabilities, and from persons with disabilities, who enjoy the time spent to understand their situation. It also helps developing a more sociable atmosphere, where some bus drivers recognise customers who have attended the same training, making them feel more confident to board the bus. The workshops also reassure users by showing them that they can travel on both the tram and bus networks.

## DEDICATED SERVICE

**Mobibus** is Keolis Bordeaux's **dedicated transport service** for persons with reduced mobility. After registering to the service, users can book trips in advance, including to the train station or airport, or make reservations on the spot. The service covers all 28 communes of Bordeaux's metropolitan area, and is available 364 days a year. Users are charged **3€ per trip**.





# FRANCE

## BIBUS, KEOLIS, Brest

- Composition of network: bus, tram, cable car
- ▶ 28 lines, all transport modes combined
  - ▶ Around 400 stops
  - ▶ Covers 8 communes
  - ▶ 26 million passengers per year



TRAM



**100% of trams** are accessible and **93% of stops** are accessible. In some areas, slopes are too steep for the adaptation to be feasible. All vehicles have a reserved area for wheelchair users, and all stations are equipped with ramps and tactile paths.

BUS



**100% of the bus fleet is accessible for wheelchair users, all vehicles being equipped with retractable ramps.** All new vehicles are also equipped with **audio announcement devices**.

50% of bus stops are accessible. **The network is expected to be fully accessible by 2025.**

The Public Transport Authority, rather than the operator, is responsible for the development of accessibility programs, and more stops will be adapted after 2018.

CABLE CAR



The cable car is fully accessible. Entrances are marked by tactile paths.

## TICKETING MACHINES

48 ticketing machines are useable on the network, all of which are accessible, with **specific options for different types of impairments**. Holders of an invalidity card pay a reduced fare.

## INFORMATION TOOLS

90% of the information provided by Keolis Brest is available via several sensory channels.

**All of the information systems are accessible for persons with sight impairments, except the website, which will be adapted in 2019.**

## HUMAN ASSISTANCE

Staff is present on board to help passengers. They also receive mediation training, aimed at preventing conflicts, helping passengers (including those with disabilities), and enforcing the rules (for example making sure that persons who are blind are given a seat).

## DEDICATED SERVICE

**Accemo** is a dedicated public transport service, designed by the PTA and operated by Keolis Brest, for persons with a degree of at least 80% of disability who are unable to use buses independently. It serves the same 8 communes as the regular network, aboard **specially equipped minibuses**. After registration, it is an **on-demand service**, available all year round.



# FRANCE

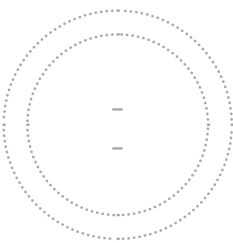
## RATP, Ile-de-France

Composition of network: bus, tram, metro, regional trains

- ▶ First metro line: 1900
- ▶ 373 lines, all transport modes combined
- ▶ 6,800 stops
- ▶ Covers the Parisian region of Ile-de-France
- ▶ More than 3 billion trips per year (2016)



### METRO



At the moment, only line 14 is fully accessible. All vehicles operating on this line, and its nine stations are accessible in complete autonomy. The planned extension of line 14, North and South, will add 12 fully accessible stops.

Works are currently under way to extend lines 4, 11 and 12. The new segments, connecting the suburbs to the edge of Paris, will be accessible.

An exemption was granted to the historical portion of Paris' metro. For technical, safety, financial and regulatory constraints, due to the age of the infrastructure, its adaption is indeed not feasible at this time. Alternative measures are available where metro stations are not accessible, namely the bus and tram networks, which are for the most part accessible for wheelchair users.

### TRAM



All vehicles, lines and stops are accessible in complete autonomy for persons with reduced mobility.

### BUS



100% of buses and 76% of bus stops are accessible. The network is expected to be fully accessible by 2022. Ongoing improvement measures include raising platforms/sidewalks and clearing out obstacles (road works are under the responsibility of local authorities).

For a bus line to be considered accessible, 70% of its stops must be adapted, running buses must be equipped with ramps, and drivers trained to welcome persons with reduced mobility.

At the moment, all 63 bus lines within Paris and 70% of suburban lines (overs 200 lines) are fully accessible.

### RER



100% of the train fleet is accessible, with the installation of access ramps by staff when required. Between 2025 and 2030, Ile-de-France Mobilités, the authority in charge of organising public transport in the Parisian region, will fund the replacement of about 100 trains on the RER line B.

63 train stations are accessible, out of 65. The adaptation of the last two train stations is expected to be completed by 2020. They will be fitted with lifts and ticket validating devices suited for persons using wheelchairs.

Throughout RATP's network, accessibility improvements have been carried out, including the installation of lifts, escalators and providing wide access to ticket validation equipment.

Persons who are blind can navigate more easily towards entries and services with the help of sound beacons, and special attention was brought to securing platform edges and staircases. Special care was also directed towards the atmosphere of stops and stations (lighting, wide spaces...), and signage has been reinforced in areas that can be complex to navigate.

## TICKETING MACHINES

About 1,800 ticketing machines are useable on the metro and regional train networks. All of them are accessible for persons using wheelchairs, and around 500 of them are adapted for persons with sight impairments. Ticket offices and intercoms are also equipped with magnetic loops.

Ticket rates are set by Ile-de-France Mobilités and local authorities. In some cases, local authorities allow their residents who have mobility impairments and an accompanying person to travel for free or at reduced rates.

## INFORMATION TOOLS

Fares, timetables and accessibility information are available both in audio and visual format on RATP's website and mobile apps. Furthermore, the website provides the possibility to be connected with staff members who are able to communicate via sign language or written chat if required.

Real-time information is displayed on screens and via audio announcements in metro stations as well as at Parisian bus stops upon request.

Audio announcements will be added to suburban bus stops by 2020, and improvements to RATP's website's accessibility are being worked on.

## HUMAN ASSISTANCE

Staff is available in stations throughout the day, to provide assistance, if required, to persons with sight or cognitive impairments, with ticket purchases, route advice and other information. They are also here to help persons using wheelchairs to board and alight from vehicles.

Awareness raising training is provided to RATP staff, with regards to the different types of disabilities. They also receive training concerning best practices.

## INNOVATION

The Audio Atlas is a mobile app project which is being developed and tested in cooperation with Urbilog, an agency specialised in digital accessibility, and the department of Technology, Handicaps, Interfaces and Multimodality of the University of Paris 8. This audio guide can help persons with reduced mobility, whether they are wheelchair users or have sight or hearing impairments, to navigate the metro and RER network more easily, through the best adapted route.



Find out more about RATP's accessibility strategy in the "Best practices" section of this report!



# FRANCE

- CTPO/LIA, TRANSDEV, Le Havre**
- Composition of network: bus, tram, TER (express regional transport), On-demand transport
- ▶ 17 lines, all transport modes combined
  - ▶ Around 800 stops
  - ▶ Covers 200km<sup>2</sup>
  - ▶ 32 million passengers per year



Le Havre's tram network, comprising two lines, **22 tram-sets and 46 stations** is **100% accessible**.



**All buses and 85% of bus stops are accessible.** These stops represent over **80% of the network's total ridership**.

Following the adoption of its Sd'AP (a voluntary road map of planned accessibility designed by the public transport authority), **271 out of the 317 stops** selected for the period 2016-2018 have already been made accessible.

Every year, the local authority of Le Havre has an allocated budget of 750,000 € for the improvement of its public transport stops' accessibility, representing **2,25million € for the three-year program**. This accessibility improvement program is fully funded by the local authority, except for a contribution of 461,462 € from the Local Investment Support Fund (FSIL) in 2016.

By the end of 2015, 241 stops were accessible. **By mid-2019 at the latest, all 317 stops concerned by the program will be accessible.**

## TICKETING MACHINES

Within the framework of the Sd'AP, all public-access buildings and equipment must be made accessible under a 3 to 9 year program. As such, LiA's sales offices were adapted in 2012. Both LiA's **sales offices are indeed almost fully accessible**: they are equipped with **specific welcome desks** and ticket counters, which can be easily accessed by persons with reduced mobility from the offices' entrance, and **automatic sliding doors**. Special attention was brought to rid the offices of any obstacles which could hamper wheelchair users from accessing these services. **Further improvements must be brought with regards to appropriate signage** for persons who are blind or who have sight impairments. **All 29 ticketing machines of the network are also accessible** for persons with reduced mobility.

Commercial agents are trained to welcome and serve persons with intellectual disabilities, and wear the badge S3A. This pictogram, created by Unapei, the Federation of



French associations representing persons with intellectual disabilities, allows them to easily identify places where they can receive specific attention matching their needs.

## INFORMATION TOOLS

All information is available on CTPO/LiA's **website, which allows the use of speech synthesis**.

CTPO/LiA has committed itself to improve the accessibility of paper and digital information tools, as well as information at stops and stations, as part of the renewal of the operator's public service delegation contract with the Transport Authority. The program is ongoing, and will be implemented in September 2018.



For some channels however, such as signage at stops and stations, new tools must be installed, which requires an investment from the local authority.

## HUMAN ASSISTANCE

CTPO/LiA organizes **guided tours** for specialised institutions accommodating people who are disabled. In this context, up to **ten participants can attend an hour-long group visit**, which includes a tour of the central control room and tram maintenance workshop, safety guidelines aboard trams and on platforms and information on ticket validation. Participants are also taught to **identify the relevant information** displayed at stops and stations, as well as the different transport line colours on bus destination signs.

Since June 2016, the in-house training department is entitled to provide a **training on accommodating persons with reduced mobility and docking of the network lines** to all of the company's drivers and controllers. Drivers and customer relationship officers working in the Transport of Persons with Reduced Mobility (TPMR) service are gradually registered to this program. Subcontractors of the Mobi'Fil taxis are also encouraged to attend this day-long training. So far, two-thirds of all subcontractors are now familiar with the subject.

Furthermore, drivers assigned to the TPMR service follow a set of additional trainings aimed at raising awareness about the needs of persons with disabilities or reduced mobility: accompanying drivers, movements and postures, first-aid worker and welcoming persons with reduced mobility. These courses include presentations on the **legal requirements** linked to their positions, the **different types of disabilities**, the **specific transport equipment**, the **identification of risks and how to avoid them**, as well as **practical exercises**.

## INNOVATION

CTPO/LiA redesigned its commercial information related to the TPMR service following the "FALC method": **easy to read and to understand**, making it easier to read for persons with intellectual disabilities.

Another project, still pending at the moment, would provide an **accompanying service for individuals who have difficulties using the regular transport lines but who do not qualify for the TPMR service**. This service would be tailored to the specific needs of the client, according to his or her level of autonomy. The accompanying person could provide **door-to-door assistance**, helping customers find their way to the nearest bus or tram stop, buying tickets, making sure they get a seat aboard the vehicle, and bringing them to their destination address. The idea would be for a cooperative community-oriented enterprise to implement this project, where young people who have chosen to do a voluntary civic service could carry out this inclusive service.



# FRANCE

## STAR, KEOLIS, Rennes

Composition of network: bus, metro

- ▶ 1st metro line: 2002
- ▶ 149 lines, all transport modes combined
- ▶ 1,640 stops
- ▶ Covers 610km<sup>2</sup>
- ▶ 80 million passengers per year



Benefitting from a young infrastructure, **100% of the network is accessible, and 100% of metros are accessible.**

In 2014, Keolis Rennes upgraded its metros, adding a **space designed for passengers using wheelchairs per metro car, i.e. two per metro.** By 2015, the fleet was fully accessible.

The new metro line b, which is expected to open in 2019, will meet the same standards.



Even though all buses are already accessible, Keolis is working closely with associations dealing with disability issues, to listen, analyse, implement and revise measures following feedback, in order to improve continuously. In this framework, action plans to improve vehicles' accessibility include measures such as preventive maintenance plans for access ramps, investments in buses which contain **two dedicated spaces** for wheelchair users, and **coloured destination signs.**

**75% of bus stops are accessible.** The improvement of Keolis' bus network in Rennes is based on the adaptation of the city's accessibility blueprint, which was planned in **cooperation with associations dealing with disability issues.** The program consisted in making sales offices and stops accessible. It began in 2015, and is fully financed by Rennes Métropole. Due to topographical constraints, the adaptation will not be feasible for 39 bus stops.

Rennes Métropole, the Public Transport Authority, designed a **technical plan for stops**, setting standard requirements regarding platform height and width. The PTA also invested in an **operational support and passenger information system**, and equipped stops with passenger information terminals which can read aloud the displayed information when prompted by a Bluetooth-connected smartphone app or remote control.

The signage used throughout the network goes beyond the national legal requirements, and uses **colour contrasts and fonts adapted for persons who have sight impairments.**

## TICKETING MACHINES

There are 30 ticketing machines available on line A, which will all be accessible in 2019, and 30 on line B, which will all be **accessible in 2020.**

Ticketing machines have been fitted with an **audio system, an increased font size, heightened contrasts on screens, as well as the use of clear pictograms.** Human-machine interfaces feature displays related to accessibility.

## INFORMATION TOOLS

All of the network's information tools can be considered accessible. However, Keolis Rennes has set up a plan for the **continuous improvement of its passenger information tools.** In cooperation with the PTA, passengers and representatives from consumer protection associations, Keolis develops new tools, which are then improved based on **regular user feedback.**

An **Accessibility guide** can be downloaded from the website, in **written and audio form.** This guide advises persons with reduced mobility on how to use the network, the services they can benefit from, as well as a map of each line and its accessibility status.

## HUMAN ASSISTANCE

Keolis Rennes' staff is available to give **guided tours** of the network it operates, and is also present to inform passengers, in the event of service disruptions.

Bus and metro drivers receive **continuous training** as well as **annual training**, which include awareness raising on the different types of disabilities and how to interact with persons with disabilities, provided by volunteers from associations specialised in such issues.

## INNOVATION

Several smartphone applications are currently being developed, such as **"Follow me", "Alert the driver", "Help me",** which would entail following individuals who request it on a remote screen; inform drivers of the presence of a person with reduced mobility at an approaching stop; and the deployment of a support community of passengers and staff (the public transport version of "Waze"). They are expected to be up and running in 2018-2019.

The implementation of a platform of accompaniment services for passengers and the establishment of a network discovery day are in a research phase.

Within the company, Keolis Rennes is launching an **iterative innovation approach.** Every three months, a cross-sectoral

operational committee will meet to exchange and discuss new ideas. The best ideas will be analysed, implemented and improved on, in view of presenting innovative solutions to associations working with persons with reduced mobility and Rennes Métropole.

A **"Lab station"** will be used to test and adjust ideas developed by the PTA and consumer protection association working groups, starting in 2018.

On a more practical note, **maintenance operations on lifts and escalators are now conducted at night**, in order to limit service disruption.



## DEDICATED SERVICE

**HANDISTAR** is a **dedicated public transport service** for persons with reduced mobility. It is a door-to-door service upon reservation. Both occasional and frequent trips can be booked, from 8 days to 1h in advance. Persons who are blind and wheelchair users can automatically benefit from this service. Other persons with reduced mobility may benefit from it, subject to the approval by the PTA. Reservations can be made by phone, email and fax or on the network's website, and the same rates as for the regular network apply.



# FRANCE

## Astuce, TRANSDEV, Rouen

Transdev Rouen is one of the five operators of Rouen's "Astuce" network.

Composition of Transdev's network: bus, bus rapid transit (BRT), metro-tram

- ▶ 1st metro line: 1994
- ▶ 2 metro lines, 3 BRT lines, 54 bus and taxi lines
- ▶ 1,455 stops, all transport modes combined
- ▶ Covers the 725km<sup>2</sup> of Métropole Rouen Normandie, including 71 municipalities, and 500,000 inhabitants
- ▶ 55 million trips per year (2016)



**100% of metros and stations are accessible.** Lifts, escalators and tactile paths are installed throughout the network.

**All metro-trains and platforms have the same height,** making it easy for persons with reduced mobility to board and alight from vehicles. Vehicles are equipped with a reserved space for wheelchair users. Rouen's Transport Authority takes into account national law requirements in all new vehicle purchase.



**98% of stops are accessible.**

Throughout the network, pictograms on the ground indicate the recommended boarding area for persons with reduced mobility, at the vehicles' second door.

The whole bus fleet is composed of **low-floored vehicles**, equipped with an **access ramp** and a dedicated space for wheelchair users, starting in 2001 with the TEOR network. All buses purchased in the future will also be fully accessible, as Rouen's Transport Authority takes the requirements as set out in national law into account in all new vehicle purchase.

**28% of all stops on the Astuce network are accessible** (661 out of 2379). Following national legal requirements as well as the adoption of an SD'AP in June 2015, métropole Rouen Normandie is leading a program aiming at improving stops and stations' accessibility. An annual budget of 1million € was voted in 2015 for the period 2016-2018. Planned measures include **elevating platforms, installing tactile guide paths, voice output, dynamic display and ticketing machines** suitable for persons with reduced mobility. Underground stations are also being equipped with lifts. The implementation of these measures is ongoing on the bus network. The metro and TEOR networks are in maintenance phase.



**100% of buses are accessible and works are underway to make bus stops accessible.**

Given the road layout in some areas, with steep slopes or narrow roads, and the high costs that would be entailed, the adaptation of about 200 bus stops is not possible at the moment

## TICKETING MACHINES

All 99 ticketing machines useable on the network have an adapted height for wheelchair users, and a ticket desk at the appropriate height is also available at the sales office. Persons with reduced mobility can purchase **specific tickets** allowing them to use **dedicated taxi services** as well as **minibuses** adapted for wheelchair users. Tickets can also be purchased **online, on a fully web responsive website, compatible with the W3C standard**, and since February 2017, a one-trip ticket valid anywhere on the network, can be **purchased by text message**. Additionally, customers of the TPMR service can purchase tickets from **authorised agents**.

Starting in January 2018, some ticketing machines components will be replaced in order to improve the readability of screens, and allow credit card payments.

## INFORMATION TOOLS

Underground metro stations provide **audio announcements indicating metro destinations**. In case of **service disruption**, both metro and TEOR stations systematically provide information via audio announcements.

Persons who are blind or with sight impairments can receive a **remote control** upon request, with which they can activate audio announcements at metro and TEOR stations, to get information on the station, destination, time of next departure, deviations and disruptions on the network.

**The names of stations are written in Braille** at their entrance, under the handrails.

**Information and awareness raising measures** are also developed for persons who are deaf or hard of hearing, as well as for persons with cognitive or psychosocial disabilities.

There is at the moment no ongoing program, but Transdev Rouen is always open to further improvements.



## HUMAN ASSISTANCE

Transdev Rouen makes sure that their staff receives adequate training. In the framework of Compulsory Continuous Training, all drivers and technicians follow a **three-hour module developed in cooperation with the French association for paralysed individuals (APF)**, who invite one or two affiliated persons with reduced mobility to speak at each training session. The programme includes discussions with the guest speaker, a reminder on the drivers' duties, practical exercises at stops identified as difficult, feedback and assessment of the exercise. Newly-hired staff and all driving staff also follow a similar training.

When needed, consultations with associations representing persons with reduced mobility and disabilities can be organised.

## INNOVATION

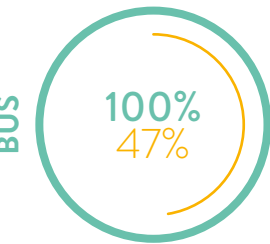
The possibility to **purchase transport tickets by text message since February 2017 is a first in French networks**, with around 250 000 tickets sold so far, which represents one ticket sold every 20 seconds during the week. As this service doesn't require any kind of application, registration or management of financial information, it is very easy to use. By simply sending "V1" to the 93000, customers instantly receive their virtual ticket. An extension of this service to tickets valid for 24h is foreseen.



# GERMANY

## DVB AG, Dresden

- Composition of network: bus, tram, ferry, funicular
- ▶ 12 tram routes, 27 bus routes, 2 funiculars, 4 ferries
  - ▶ 154 tram stops, 457 bus stops, 107 combined tram & bus stops
  - ▶ Covers 328km<sup>2</sup>
  - ▶ 157, 1 million passengers per year



**The bus fleet is 100% accessible.** Up to two designated spaces for wheelchair users are available, and colour contrasts are used for handrails.

**47% of bus stops are accessible.** The accessibility of bus stops is ensured by an increased platform height (to 20cm), a gentle slope to cross the street and orientation system for persons who are blind. The city of Dresden is responsible for the bus stops, DVB AG is only its user. The city of Dresden is undertaking the reconstruction of stops and is expected to have its bus network **fully accessible after 2025**.

However due to topographical constraints, the adaptation is not feasible for every stop. In such cases, the use of ramps or alternative neighbouring stops will be required.



**99% of trams are accessible.** DVBAG is acquiring **new barrier-free vehicles**, to make the tram fleet **fully accessible by 2022**. All low-floor vehicles are equipped with **ramps for wheelchair users**. Trams are designed with up to six designated spaces for wheelchair users, depending on the vehicle length.

**60% of tram stops are accessible today.** DVB is working to expand barrier-free tram stops. Accessibility improvements are financed via the national GVFG law. This is an ongoing and continuous process, and **the whole network is expected to be fully accessible after 2025**.



**All ferries** are accessible, but the pier is difficult to access. 50% of the funicular stations are accessible.

Neither ferries nor funicular are accessible for persons who are blind.



## TICKETING MACHINES

The network comprises about 150 ticketing machines at stops. At the moment, 8 of them are accessible. **By mid-2018, all ticketing machines will be accessible.**

## INFORMATION TOOLS

About 95% of information concerning regular transport means is accessible.

All regular information which is **visually available** (timetables on stops, route, destination and next-stop information aboard vehicles) is also **transmitted audibly**, and available via phone or at the service centre.

The network's website uses **high contrast**, and a **Screen Reader** is available.

The network's accessibility status can be found on the **Rolli-Atlas**, an overview of all stops with the level of equipment available.

## HUMAN ASSISTANCE

Staff is available to provide information, ticket sales, or upon request for special types of transportation services.

## INNOVATION

**BLIS** is an information system featured in all vehicles. It allows persons with sight impairments to access information on the transport line, destination and next stop via a transmitter device.

## DEDICATED SERVICE

Passengers who have mobility impairments can request an accompanying service Monday to Friday, whereby trained staff takes them from door to door.





# GERMANY

## KVB AG, Köln

- Composition of network: bus, light rail
- ▶ 1st light rail line: 1968
  - ▶ 68 lines, all transport modes combined
  - ▶ 947 stops
  - ▶ Covers 405.2km<sup>2</sup>
  - ▶ 277, 7 million passengers per year



**100% of the rolling stock is accessible, and 88% of stops are step-free.** As for buses, the vehicles' inner space design is optimised for persons who have sight impairments, and visual displays indicate the buses' next stops. Accessibility improvement measures are currently being carried out, and include lifting the platforms, refitting elevators and incorporating tactile elements to the network.



**KVB's bus fleet is 100% accessible, and 33% of bus stops have been adapted with 18cm road curbs, making them accessible.** All buses have a kneeling function and ramps, and their design is optimised for persons who have sight impairments. Visual displays indicate the buses' next stops. KVB is in the process of **lifting road curbs** to 18cm and adding **tactile elements** to bus stops.

## TICKETING MACHINES

In Germany, persons with reduced mobility can use **public transport for free**, depending on the degree of disability. There is therefore no plan to make ticketing machines accessible at the moment.

112 ticketing machines are available in stations, and 721 are mobile. Tickets can also be purchased at customer centres, which are **step-free** and equipped with **induction loops**, or via KVB's mobile application.

## INFORMATION TOOLS

**All information on KVB's website is accessible.** Real-time information and timetables at stops and stations are available via visual displays or an audio demand-responsive system. Users can also **call a phone number to get the requested information**.

## HUMAN ASSISTANCE

Service staff, station managers and mobility managers are there to provide human assistance.

During their **initial training**, public transport drivers learn how to interact with persons who have disabilities.

## INNOVATION

To facilitate boarding of light-rail vehicles, the step between the platform and vehicles is reduced thanks to sloped step treads and wasting borders. For the buses, 21cm road curbs are arranged when possible, e.g.: if the adaptation doesn't prevent the doors from opening, or the bus from passing the curb.



# GERMANY

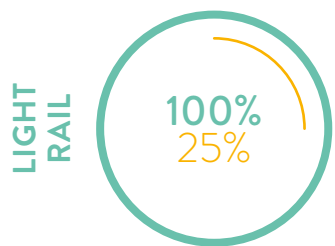
## SSB AG, Stuttgart

- Composition of network: bus, light rail, rack railway, funicular
- ▶ 53 bus routes, 19 light rail routes, 1 rack railway, 1 funicular
  - ▶ 204 light rail stops, 626 bus stops, 830 combined tram & bus stops
  - ▶ Covers 591km<sup>2</sup>
  - ▶ 177,5 million passengers per year



**The bus fleet is 100% accessible.** All buses are low-floored and each bus has one designated space for wheelchair users.

**25% of bus stops are accessible.** The city of Stuttgart is responsible for all bus stops in Stuttgart, and is undertaking their reconstruction, to make the bus network **fully accessible as of 2022**. Measures include increasing platform height and designing gentle slopes to access the street, as well as an orientation system for persons who are blind.



SSB is operating only with high-floor vehicles and elevated platforms with ramps.

**100% of light rail vehicles have been accessible since 2007.** All vehicles are designed with two designated spaces for wheelchair users.

**Almost 100% of light rail stops are accessible today.** Accessibility improvements were financed via the federal and state law on infrastructure funding GVFG/LGVFG. It was an ongoing and continuous process during the past 35 years, and **the whole network has been accessible since 2016**. All underground stations are accessible with elevators. Only one platform is still missing a ramp.

**Almost every station is equipped with guidance systems for persons who are blind.**



**The rack railway vehicles and stops** are not fully accessible, but SSB is planning to replace all vehicles and redesign the stops by the year 2022. Persons with sight impairments are able to use the rack railway.

The funicular vehicles and stations are fully accessible.

## TICKETING MACHINES

Persons with reduced mobility can use public transportation for free in Germany. As such, ticketing machines have not been made accessible.

## INFORMATION TOOLS

**Dynamic passenger information** is displayed at 72% of light rail stations and 6% of bus stops. Furthermore, acoustic and visual passenger information is available in 83% of light rail vehicles and 100% of buses.

All regular information (timetables on stops, route, destination and next-stop information aboard vehicles) which is **visually available** is also **transmitted audibly**, and available via phone or at the service centre.

There are plans to install signs about security information in braille on all light rail vehicles.

Further information about the network's accessibility can be found on SSB's website.



## HUMAN ASSISTANCE

The staff at our customer service centres provides information and ticket sales. In addition, SSB has service staff at bigger stations, who assist people with limited mobility as well.

Furthermore, SSB offers **dedicated trainings** for persons with disabilities and reduced mobility. Individuals or groups can sign up for **free seminars**. Upon request, SSB organises events with buses at homes for persons who are disabled as well as retirement homes.

## INNOVATION

Using their canes, persons who are blind can perceive the guidance systems both tactilely and acoustically at bus and light rail stops. In addition, SSB started installing lights with vibration buttons at railroad crossings.



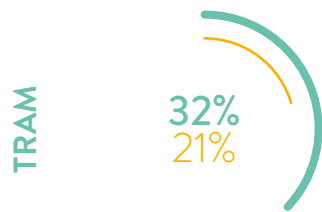
# HUNGARY

## BKK, Budapest

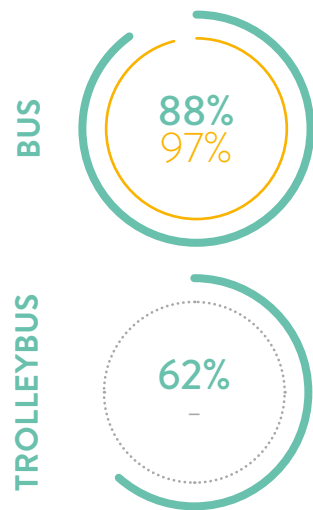
- Composition of network: bus, tram, metro, trolleybus, boat
- ▶ 1st metro: 1896
  - ▶ 222 bus lines, 4 metro lines, 34 tram lines, 15 trolleybus lines, 3 boat lines
  - ▶ 3,547 bus stops, 103 metro, 642 tram, 274 trolleybus, 17 boat
  - ▶ Covers the city of Budapest, 525km<sup>2</sup>
  - ▶ Around 1,5 billion passengers per year



**25% of metro lines are accessible.** BKK is pursuing the reconstruction of network infrastructure and replacement of rolling stock, to meet accessibility standards.



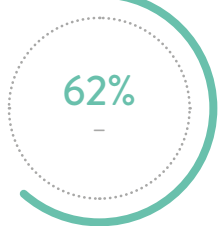
**32% of trams' seat capacity is accessible**, and 21% of tram lines are totally or partially accessible. BKK is investing in **low-floor trams**, so that 50% of seat capacity will be accessible by 2020, **and elevating platforms**, in order to provide step free entry.



**88% of buses and 62% of trolleybuses are accessible. Both fleets will be accessible by 2020. 97% of bus lines** are fully or partially accessible. Following the BMT Budapest Transport Strategy, BKK is investing in **low-floor buses** and uses procurement processes for low-floor bus services.

**Pictograms** indicate the doors through which passengers using wheelchairs should board the vehicles.

TROLLEYBUS



## TICKETING MACHINES

Out of 359 ticketing machines, **249 are accessible.**

## INFORMATION TOOLS

Information related to fares, timetables, general terms and conditions, real-time passenger information as well in-vehicle indications as to when to get on or off are available via several sensory channels.

Throughout the network, **pictograms** are used to indicate whether stops and vehicles are fully or partially accessible for wheelchair users, the presence of lifts and the presence of priority seats. The **departure times** of low-floor vehicles are also **highlighted on timetables.**

## HUMAN ASSISTANCE

BKK provides specific training for front office staff.

**A training on general design was organised for investment project managers.**

## DEDICATED SERVICE

Improving the metro's accessibility is the source of many debates, but BKK has put in place an alternative solution to address this shortcoming, providing a public passenger service via **door-to-door minibuses.** Persons with reduced mobility can request the service in advance by phone, for themselves and one accompanying person, for daily commutes to school and work, or for occasional trips.

# HUNGARY

## DKV, Debrecen

- Composition of network: bus, tram, trolleybus
- ▶ 42 lines, all transport modes combined
  - ▶ 667 stops
  - ▶ Covers the city of Debrecen, 461.2km<sup>2</sup>
  - ▶ 60 million passengers per year



**70% of trams are accessible.** Following an internal initiative, DKV is planning to purchase seven additional **low-floored trams**, and is expecting its tram fleet to be **100% accessible by 2023**.

The tram network will be **fully accessible by 2030**.



**100% of the bus fleet is accessible**, as all buses are low-floored vehicles.

**25% of the bus network is accessible.** Bus stops are the property of the local government. As such, financing the adaptation with ramps or other accessible options falls under the government's responsibility. At the moment, it doesn't have the necessary funding to allocate. Nevertheless the bus network is expected to be **100% accessible around 2030**.

## TICKETING MACHINES

10 ticketing machines are useable on the network, all of which are **accessible for persons with reduced mobility**. Passengers may also purchase tickets on board vehicles, from the drivers.

## HUMAN ASSISTANCE

From stations to vehicles, staff and drivers are available to assist passengers with reduced mobility in planning their journeys, and help them to board and alight from vehicles.



## INFORMATION

Every vehicle is equipped with **audio announcement equipment** as well as **visual information systems** for passenger information.

No further improvements are planned at the moment, as a result of a lack of financial collateral for such programs.

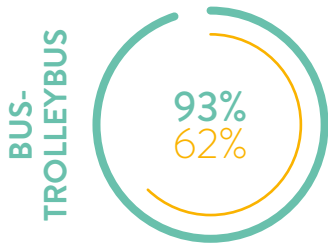
## INNOVATION

**DKV has developed a mobile application in cooperation with the local community of persons who are blind.** With this application, passengers have access to dynamic information on real-time fleet movement. It also enables passengers to plan a door-to-door travel route by audio command.



CTM, Cagliari

- Composition of network: bus, trolleybus
- ▶ 32 lines, all modes combined
  - ▶ 967 stops
  - ▶ Covers 402km<sup>2</sup>
  - ▶ 35, 7 million passengers per year



**93% of vehicles and 62% of stops are accessible.** Improvements to the stops included designing footpaths of the right height. Further adaptations will depend on the city municipality’s strategical and political vision, and the budget it will allocate for this purpose. A 750,000€ self-financed initiative to **improve the accessibility of bus stops and ticket offices** for persons who have sight impairments will be implemented starting in 2018-2019.

CTM is planning on purchasing **new buses**, which will be fully accessible, with notably improved information features, making the fleet **100% accessible in 2019**.

Current buses are accessible to wheelchair users as well as persons with sight or hearing impairments. All buses are low-floored, complemented by a kneeling function and manual ramps. They are equipped with monitors displaying the next stops, and audio announcements. CTM tested the external announcement of route and destination names at bus stops, but the program was discontinued as many complaints were received from citizens living along the route.

TICKETING MACHINES

The network’s seven ticketing machines are accessible for wheelchair users and persons with hearing impairments. Persons with reduced mobility can travel on CTM’s network with special passes and tickets at a **reduced fare**, based on the person’s income and percentage of disability.

INFORMATION TOOLS

**Busfinder** is a mobile application developed by CTM in 2012. As of September 2017, a major update was released, including features for the use of persons who are blind or visually impaired, through voice guiding, allowing passengers to plan their journey, and giving information on next stops, fares and timetables. Tickets and passes can be purchased via this application.

**Green pictograms** affixed to bus stops indicate that wheelchair users can board buses autonomously, while **blue pictograms** indicate that they will require assistance from an accompanying person.

The next step for CTM will be to provide real-time information on board vehicles.

DEDICATED SERVICE

The **“Amico bus”** is an on-demand service dedicated to the transport of wheelchair users, and users with other disabilities. An assistant is present to help passengers board and alight from the vehicle. Reservations can be made by phone on CTM’s website, one day in advance. Each trip costs 1,30€.



## ATM, Milano

Composition of network: bus, trolleybus, tram, metro, automated cable railway

First metro line: 1964

- ▶ 152 lines, all transport modes combined
- ▶ 5,081 stops/stations
- ▶ Covers Milan and its suburbs (46 municipalities), 657km<sup>2</sup>
- ▶ 715, 9 million passengers per year (2016)



**42% of trams and 58% of tram stops are accessible, while all metro- trains and 74% of metro stations are accessible.**

Plans to introduce **new low-floor** vehicles in order to replace older trams and metros are in place or under development, based on the availability of funds. N.30 low-floor articulated units are expected to be supplied starting from 2019-2020 to replace the oldest, un-accessible articulated trams now in service. Further N.50 may be added in a second step, by 2020.

ATM is funding a 51 million € program for the supply of **refurbished trams**, equipped with **elevators**, as cars have high floors, and **new rolling stock for metro lines**. N.27 units were supplied by June 2017, and the remaining N.24 trams will be delivered at a rate of one per month.

The municipality of Milano owns the metro and tram infrastructure and is in charge of any upgrade required to improve its accessibility. As the operator, ATM is only responsible for carrying out **regular maintenance activities and repairs**. ATM was commissioned by the municipality for the design and implementation of part of the planned accessibility improvement measures, including upgrading metro stations with the construction of **elevators and ramps** and the installation of **tactile tiles**, between April 2017 and 2021 (N.11 metro stations involved); N.120 tram stops will be **rebuilt** and/or upgraded and made **fully accessible**, **allowing passengers using wheelchairs to board/alight from trams**. Stops will also be fitted with tactile tiles. Works will be done between 2018 and 2020.

**100% of buses and bus stops are accessible, and 47% of trolleybuses and 62% of trolleybus stops are accessible.**

ATM is in the process of replacing older buses and trolleybuses with new vehicles. By 2019, new N.30 18-metre low-floor trolleybuses are expected to replace the oldest vehicles still in service. The full implementation of this program depends largely on the availability of funds. The cable railway's vehicle and two stations are also fully accessible.

## TICKETING MACHINES

More than 500 ticketing machines are installed at metro stations, all of which are accessible to wheelchair users. A range of ticketing options is available, from traditional magnetic and electronic tickets/cards to e-ticketing. E-ticket options include **NFC systems, QR codes** and **SMS ticketing**. The use of e-ticketing options is increasingly popular among customers. **Auto-load devices** are also available at any metro station, allowing the upload of periodic passes on electronic cards, after payment on ATM's website.

Both the Lombardy Region and the Milan Municipality have adopted schemes that provide **economic incentives for people with disabilities**, depending on the level of disability and the annual income.

## INFORMATION TOOLS

An **accessible version** for persons who are sight-impaired of ATM's **website** was implemented, allowing customers to use screen readers.

100% of buses, 49% of metro trains (up to 66% by 2019), 47% of trolleybuses and 35% of trams are equipped with **next-stop announcements, both vocal and by visual display**. All new trams and trolleybuses will incorporate vocal and visual information on board, improving travelling experience for people with some kind of disability, as well as for any other passenger.

62% of metro stations have vocal announcements and visual displays of (next) train destination, as well as waiting time and other information. The extension of vocal announcements to further metro stations is being evaluated. 29% of metro stations are fitted with **monitors/projections showing a mix of advertising and information (audio and video), related to accessibility rules, safety rules, service changes (whole network), and other relevant information about public transport in Milan**.

**On-the-spot inspections** at the major interchange stations were carried out together with the Italian association representing the organizations of people with disabilities. A renewal project is also underway regarding the signs at the metro entrances: beside the name of the station, the exact position of either the elevator or the escalator is indicated. 50 out of 94 stations underwent this improvement.

## HUMAN ASSISTANCE

In order to guarantee security and support to disabled passengers, ATM set up an **Infoline** operated every day until midnight. This service offers **real-time updates on the surface and metro lines' accessibility status**. It also provides **on-request accompanying services** for persons with any kind

of disability. This includes helping persons with disabilities to get familiar with stations, stops and vehicles so that they can travel independently.

ATM organises **employee training** providing knowledge about the regulatory framework and constant updates as well as the development of skills and professionalism, along with **advanced courses aimed at increasing disability awareness** for both front line staff and driving instructors, and **relational courses** where new customer approaches are developed.

A **brochure aimed at sensitizing** awareness with reference to the various types of disabilities was created and supplied to the staff. A permanent link is available on the company intranet network.

**Short training modules were carried out in collaboration with LEDHA, an association composed of over 180 organisations of persons with disabilities**. A tour was made in the company depots where the staff heard testimonials from LEDHA and were able to ask them questions about the best way to interact with persons with disabilities.

Video interviews of individuals speaking about their daily lives and the impact of their disability on traveling, as well as their experience with ATM staff were shown, and are available on the ATM intranet.

## DEDICATED SERVICE

ATM provides **door-to-door school services for children and teens with disabilities** (including psychosocial disabilities). These services are requested and funded by the municipality. These services are also carried out in the summer, in order to bring passengers to recreational centres.

**Around 350 persons are carried daily on mini/midi buses**, which operate around 50 runs in the morning, and 50 runs in the afternoon. Each bus is attended by a driver and trained staff in charge of taking care of the passengers.





MALTA PUBLIC TRANSPORT, National

- Composition of network: bus
- ▶ 116 lines
  - ▶ 2,200 stops
  - ▶ Covers 365km<sup>2</sup>
  - ▶ 42 million passengers per year



All of Malta's bus fleet and stops are accessible. Buses are low-floored and equipped with ramps for wheelchair users. Signal buttons are located at a convenient height for wheelchair users.



TICKETING MACHINES

There are no ticketing machines on the network, tickets can be purchased directly from the bus driver, who can assist passengers with reduced mobility.

Alternatively, **pre-paid travel cards** can be purchased, which 80% of passengers use.

INFORMATION

There are audio announcements of stops as well as a visual display, and the "stop" buttons are in braille as well.

All information is available digitally, which is accessible through specific softwares for different sensory channels.

HUMAN ASSISTANCE

MPT provides a **guide dog training programme**.





ZTM, Warsaw

- ZTM is Warsaw Municipal Transport Authority
- Composition of network: bus, tram, metro, rail, ferries
- ▶ 1st metro line: 1995
  - ▶ 318 lines, all transport modes combined
  - ▶ Around 6,000 stops
  - ▶ Covers the city of Warsaw + 32 surrounding local communities
  - ▶ 1,136 billion passengers per year (2016)



© MZA



About 98% of buses and 95% of the network are accessible.

ZTM manages bus stops, lines, passenger information and standards for buses. All operators have comparable requirements. However, there is a limited number of buses from “old contracts” which lack fully up-to-date passenger information systems (lack of audio announcements). Those vehicles are scheduled to be phased out by 2020.

ZTM has indeed been undertaking a **replacement and modernisation program**, by which non-accessible vehicles are gradually being phased out. Warsaw’s buses will be **fully accessible in 2020**.

Low-floor buses are equipped with manually operated ramps for wheelchair users as well as designated spaces for them inside. Most vehicles may offer space for at least one wheelchair user and at least one baby stroller.

Non-fully accessible vehicles only serve local connections in neighbouring communities, limiting their impact on the network.

Combined efforts of different entities of the city and surrounding municipalities have led to an ongoing program, bringing **higher platform curbs, tactile guidance paths and warnings as well as elevators** where necessary.

The improvement of accessibility is an ongoing process, which, in some cases, is done in the course of road modernisation or other works. There is therefore no specific date of implementation.

The adaptation is not feasible on the whole network, as some local stops’ width is below the required 2.5 meters (1 meter of ramp and 1,5 meter of manoeuvring space).



About 60% of trainsets and most of the tram network are fully accessible. The network is expected to be 100% accessible by 2030.

Currently, there are 311 accessible, low-floor trainsets and 216 high-floor trainsets of older types. In order to provide maximum accessibility, no route is served only by high-floor rolling stock, so that the entire network may be accessed by low-floor trams. **Services of low-floor trams are marked on schedules and passenger information displays.**

A modernisation program is under way, within which **123 new low-floor trams, plus an option for 90 extra trams, will be purchased after 2019**. The end goal is of course to have a fully accessible fleet.

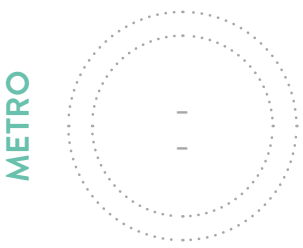
Tramwaje Warszawskie (Warsaw trams, the operating company), manages tram stops in the city. Along with the municipality, they are undertaking both infrastructure (tram stops platform adaptation) and rolling stock (elimination of high floor vehicles) improvements. The measures are implemented using EU, city and own funds.

With regards to tram stops, their accessibility is sometimes limited due to access through a pedestrian subway or bridge. Improvements of those locations require massive remodelling of the intersections and road network, and in all crucial points is in the project phase. Information on the limited availability of the service on certain stop is then provided.

FERRIES

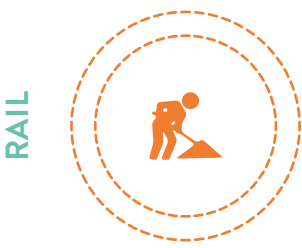
Ferries across Vistula River have a very limited role in the city transport system and operate only in the summer season, provided sailing conditions on the river (water level) allow operation. Due to a very high variety of water levels on the Vistula River and its unregulated Eastern bank, access to river ferries is difficult for persons with reduced mobility and may be impossible for persons using wheelchairs, since access to the ferries goes through sandy beaches and/or unpaved paths on the unregulated Eastern bank.

In October 2017, the City adopted the City Accessibility Guidelines, which include requirements for bus and tram stops as regards their accessibility and signage. This document refers to the organisation of public space and road construction criteria. It was drafted in close cooperation with ZTM (MunicipalPublic Transport Authority) and Tramwaje Warszawskie (Warsaw Trams).



Three generations of rolling stock are used on the metro network, and are **generally accessible**. For the oldest units (22 trainsets out of 75), assistance may be required for wheelchair users when boarding at certain stations, due to a gap between the train and the platform.

All stations are equipped with **elevators** between the street and platform level. **Tactile guidance** and **warning surface indicators**, as well as **tactile plans of the stations and tactile information about directions on handrails** are also installed in stations.



Rail services are of **limited accessibility**. None of the stations and stops fully meet the accessibility requirements as set out in the Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union’s rail system for persons with disabilities and persons with reduced mobility. A limited number of stations is equipped with elevators. Some stations are equipped with ramps, and **most stations have basic (warning) tactile signage on platforms**. Major improvements in accessibility are expected along with planned modernisation of the major East – West rail line that goes through the city centre. However, railway infrastructure is not under the management of the City.

The rail network is operated by three companies. 22 out of 28 of city-owned SKM’s electric motor units (EMU) are low-floored (standard 760mm height). The six remaining high-floor EMUs are equipped with special lifts for wheelchair users.

Region-owned KM operates both modern low-floored rolling stock (760mm height), as well as modernised and unmodernised older EMUs (with a floor height of 1150mm, and special lifts for wheelchair users).

Also region-owned WKD operated on a separate network, and uses only new rolling stock, adjusted to the height of platforms (300 mm).



## TICKETING MACHINES

Most passengers with disabilities can **travel for free**. About 2,500 ticketing machines are useable on the network. In general, they are currently not accessible for wheelchair users and they do not provide alternatives to visual modes of communication.

Several ticketing options are available, including long-term passes, tickets machines, and ticket purchase via mobile devices and in sales points.

## INFORMATION TOOLS

Fares, timetables and rules are available via several sensory channels. At the moment, real-time information is not provided at most stops. Plans to install equipment providing accessible real-time information are in the first stages of preparation.

As vehicle frequency is very high, in some cases, “real-time” information may not actually appear in real time.

## HUMAN ASSISTANCE

Human assistance is provided in railway services, according to the Technical Specifications of Interoperability relating to persons with reduced mobility.

## INNOVATION

The City of Warsaw is conducting a project called “**Virtual Warsaw**”, which includes trainings for persons who are blind. The trainings end with the preparation of a grant application for the purchase of a smartphone. The phone purchased by the participant must be compatible with the installation of a mobile application created within the project “Virtual Warsaw”. In a second stage, participants take part in workshops on how to fully use mobile applications, including in particular the «Virtual Warsaw» application created within the project.

Throughout the network, accessibility for passengers using wheelchairs is improved by **eliminating architectural barriers, changing the design of the stops, and implementing measures to provide a fully low-floor fleet**.

**Guidance paths** are also installed to help passengers who are blind, and service centres are equipped with **induction loops** for the benefit of passengers who are deaf or hard of hearing.

## DEDICATED SERVICE

Dedicated transport services for persons with reduced mobility are provided by City social care units. These are operated by specialized vans with personnel providing assistance in the whole course of transport.

## MZA

MZA is a city-owned but operator in Warsaw, providing transportation to 574 million passengers per year.

MZA’s buses in are **low-floored**, going up to 340mm at each door, and have a **kneeling function**, which allows the bus to lower its floor to the curb height. At least one door is equipped with a **ramp**, to facilitate the entry for passengers using wheelchairs.

The bus interior is designed with a **dedicated space to carry a wheelchair**. The door as well as the designated space are equipped with push buttons to inform the driver of the entry/exit. Seats located in completely low-floor areas are marked for people with disabilities.

An **audio system** can be activated by the driver to inform passengers waiting at bus stops. **Contrasting colours** are used to mark handrails, handles and buttons, and elevations. STOP buttons are marked in **Braille**, and installed at least every four seats.

Visual passenger information is available on side and ceiling panels, giving information on route, current and next stops, traffic jams and interchanges.

**Periodic training** is given to bus drivers, to provide adequate services to passengers using wheelchairs.

# PORTUGAL

## METRO DO PORTO

Composition of network: metro

- ▶ 1st metro line: 2002
- ▶ 6 lines
- ▶ 82 stops
- ▶ Covers 2,040km<sup>2</sup>
- ▶ 57,8 million journeys per year (2017)



Although **100% of Metro do Porto’s fleet and network are already accessible**, Metro do Porto is working in an **ongoing improvement process**, carrying out interventions to increase the stations and their surrounding areas’ accessibility.

Elevators have been installed at all levels of the stations. **Gentle slopes** with smooth surfaces were integrated, and there are **no entrance gates**.

Platform edges and stairs are equipped with **tactile surfaces**.

To ensure a **pleasant atmosphere** throughout the network and ensure its accessibility for persons with cognitive or psychosocial disabilities, all spaces and elements comply with rules of organisation, which are duplicated in all stations. The spaces are identical, and elements found in the same place, in order to create a routine of use. The spaces are wide and regular, with no hidden corners and, in most cases, natural light.



## TICKETING MACHINES

190 ticketing machines are useable on the network. They are at the moment not accessible to all, but passengers may renovate their monthly tickets at ATMs, which have buttons in braille. Improvements on tickting machines are foreseen in future network expansions.

## INFORMATION TOOLS

Real-time information is provided via **visual and audio channels** both at stations and on-board vehicles. Alert information is provided with colour contrast.

Information concerning fares, timetables and accessibility rules are provided visually and online on Metro do Porto’s website as well as on mobile applications.

Metro do Porto is currently researching new and improved information systems.

## HUMAN ASSISTANCE

Agents are available throughout stations to help passengers with ticket purchases, guidance and network orientation. These agents are trained to be mindful of and help passengers with reduced mobility if need be.

## INNOVATION

Metro do Porto has developed a **colour system** to improve the legibility of signage for persons who are colour-blind, and **Navmetro**, an audio system to guide persons who are blind or visually impaired from the outside to the platform.

A **mobile application, Andande**, which will allow passengers to **travel without a physical ticket** is being studied. The general idea is a “pay-as-you-go” system, where users’ journeys would be tracked via phone signal, and the relevant amount automatically charged.

# ROMANIA

## RATB, Bucharest

- Composition of network: bus, tram, trolleybus, light rail
- ▶ 1st metro line: 1981 (by Metrorex)
  - ▶ 155 lines, all transport modes combined
  - ▶ 2,465 stops
  - ▶ Covers 633km<sup>2</sup> - including 228km<sup>2</sup> of urban area
  - ▶ 438 million passengers per year (not including passengers using free passes)



© RATB

# SLOVENIA

## LPP, Ljubljana

- Composition of the network: bus
- ▶ 28 lines
  - ▶ 722 stops
  - ▶ Covers about 1,900km<sup>2</sup>, central Slovenia
  - ▶ 42 million passengers per year



© LPP



Today, 27% of trams are accessible. RATB, along with the municipality of Bucharest, is undertaking a modernisation program, inserting a **partial low floor module** on its trams, at the RATB plant. **All trams are expected to be accessible by 2030.**

56% of trolleybuses are accessible. Thanks to local investments, **all trolleybuses will be low-floored by 2020.**

**100% of the bus network, 56% of the trolleybus network and 27% of the tram network are accessible.**

RATB is carrying out fleet and infrastructure modernisation, funded by the municipality of Bucharest and EU Structural Funds, in compliance with international, EU and local guidelines. In accordance with the local Sustainable Urban Mobility Plan, the measures will be fully implemented by **2030, date at which 100% of the network will be accessible.**

## TICKETING MACHINES

**Free transport passes** are available for people with reduced mobility and accompanying persons.

126 selling points are available, all of which are accessible.

## INFORMATION TOOLS

500 vehicles are equipped with special devices displaying the line and bus number.

RATB is **collaborating with TANDEM, a local NGO**, to develop devices which will be able to communicate with mobile devices owned by persons who are blind via an app. Vehicles will be equipped with these devices by 2020.

## HUMAN ASSISTANCE

Vehicle drivers are periodically trained.



© RATB

## DEDICATED SERVICE

A **demand-responsive transport** service was put in place by LPP in 2008. Persons with reduced mobility who register for the service can contact LPP's traffic control centre by phone or email to request transportation on a certain day and time. The driver is then informed on the specific transport requirements for the passenger.



## TICKETING MACHINES

Passengers with disabilities can travel with a companion **free of charge.**

Buying bus tickets was made easy by setting up **ticketing machines and selling points in almost every grocery store**, as well as enabling **payment via mobile phone.**

All 60 ticketing machines are accessible, and each up to 3km for all residents of Ljubljana.

## INFORMATION TOOLS

Information concerning fares and timetables, real-time and planned, can be accessed via LPP's **internet page and mobile applications.** Arrival times are displayed on more than 100 bus stops.

Some applications are not compatible for all phones, which can restrict the accessibility of information. LPP is working to develop tools to make information more widely accessible, in particular for persons who have sight impairments.

## HUMAN ASSISTANCE

Bus drivers are instructed on how to communicate and act with people with disabilities. This topic is discussed during the drivers' **annual training.**

## INNOVATION

To help break the communication barrier, **special Identification cards** for persons with disabilities have been put in place, in cooperation with associations dealing with this subject. Any individual who wishes to be recognised as a person with a disability can print out the relevant identification card from LPP's website and show it to bus drivers or keep it visible in order to get the required help.



EMT, Madrid

- Composition of network: bus
- ▶ 205 lines
  - ▶ 10,271 stops in the municipal area of Madrid
  - ▶ 430 million passengers in 2016



In compliance with EU and national legislation, the whole bus fleet has been updated with **low-floored and kneeling buses, access ramps, and handles** to help embarking and disembarking the vehicle. Other improvements include a **continuous bar and handle frame** in contrasting colours that runs throughout the vehicle, **wider central platforms**, allowing both wheelchairs and prams to travel safely, and **easy-to-operate exterior pushbuttons**, to request the deployment of the access ramp. **Colour contrasts** are also used to designate reserved seats for persons with reduced mobility, which have folding armrests and easy-to-operate pushbuttons to request stops, as well as to mark pavement border and the way to the vehicle's doors, for more safety. **Non-slip and anti-reflective floor**, in dry or wet conditions, is used where required.

**Braille** is used on pushbuttons and on the reserved areas for persons with reduced mobility, and an **audio and visual signal** is emitted during ramp deployment. An audio information system is operated both inside and outside the vehicle.

For more convenience, ticket validators have been added to buses' central platforms, and all buses purchased from 2016 include two platforms, to accommodate up to two wheelchairs.

While the whole fleet is accessible, some elements such as the double platform and validators on the central platforms are new, and are still in the process of being integrated. The new equipment will be installed in 2017 and 2018.

As of 2017, **100% of bus stops are accessible**. All of EMT's bus stops comply with the national regulatory requirements concerning **visual and tactile signalling of pavements**, bus stop **shelter dimensions** and **seats and sciatic supports**. Prefabricated platforms, installed at some stops, are currently being eliminated to facilitate the entry and exit of users with reduced mobility.

INFORMATION TOOLS

A decisive factor for EMT was the introduction of new IT technology, essential elements in today's society. The absence of such tools can be an important barrier in people's daily lives.

Through new technology, EMT is promoting **"universal communication"**, to reduce barriers and facilitate access to information for all of its passengers. To do so, information is provided through several communication channels.

Information on the bus lines for instance is available in braille and via other accessible technological systems. For example, passengers can receive waiting times at bus stops by sending a text message or through voice recognition.

Furthermore, EMT's website follows W3's Web Content Accessibility Guidelines 2.0, Level AA.

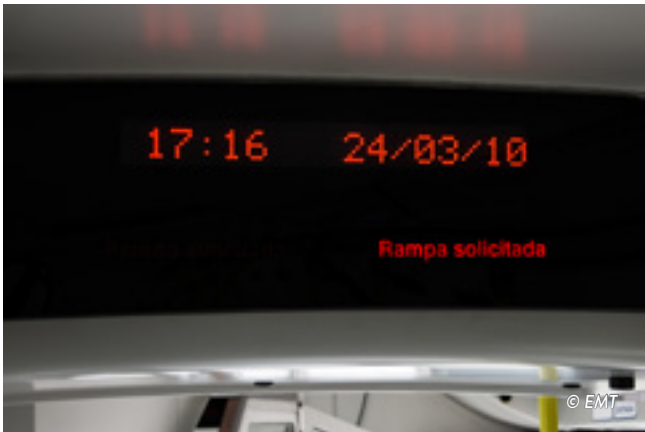
All of the accessible features of EMT's network and vehicles are detailed in the publication "Accesibles para ti".

HUMAN ASSISTANCE

EMT implemented a protocol on how to proceed in case there is a fault in the operation of mobile ramps. In such occurrences, bus drivers can request adapted taxis for wheelchair users.

EMT provides persons with cognitive disabilities with **training designed to help them travel safely and autonomously by bus**.

EMT staff also receives training on group interaction, universal accessibility and information and customer service.



INNOVATION

EMT is participating in several projects designed to improve accessibility in all areas, such as the **"Global Network of age-friendly cities and communities"**, **"Municipal Plan for Children and Adolescents"**, and the **"Madrid Includes"** plan, for the inclusion of persons with disabilities.

All of these projects establish action plans to improve accessibility throughout the city, including transportation, with the active participation of the groups on which they focus.

EMT also takes part in **working groups** with several organisations with the objective of achieving sustainable and high-quality accessibility measures, in accordance with the needs of each group.



# SPAIN

## TRAMVIA METROPOLITA, Barcelona

- Composition of network: Tram
- ▶ 6 lines
  - ▶ 56 stops
  - ▶ Serves the metropolitan region of Barcelona
  - ▶ 26,8 million passengers in 2016



The tram network is 100% accessible, and 100% of the tram fleet is accessible.

Tramvia has initiated a program to improve the accessibility of information related to reserved spaces for persons with reduced mobility, within its network. The initiative is ongoing until the end of 2017.



## TICKETING MACHINES

All 111 machines available on the network can be used in braille.

## INFORMATION TOOLS

Tramvia is in the process of improving the accessibility of its website.



# SPAIN

## TMB, Barcelona

- Composition of network: bus, metro
- ▶ 1st metro line: 1924
  - ▶ 107 lines, all modes combined
  - ▶ 2,685 stops
  - ▶ Covers 250km<sup>2</sup>, conurbation of Barcelona
  - ▶ 577,29 million trips per year



100% of buses are accessible to persons with reduced mobility. 100 % of metros and 91% of the metro's platforms are accessible today.

TMB's **Accessibility Masterplan** is the internal initiative formalising the network's commitment to the principle of equal opportunity, respect for human diversity and the right to lead an independent life. The plan's measures are set to be implemented by 2020.

Vehicles either have **low-floors** or **kneeling functions**, and other adjustments included the installation of **ramps** and **reserved seats**. Lifts have been installed in metro stations.

Information at bus stops is transmitted audibly, and **braille-based metro guides** are available. Vehicles' doors are also equipped with lighting indicators.

## TICKETING MACHINES

571 ticketing machines are useable on the network, all of which are accessible. TMB provides **magnetic tickets with tactile marks**.

## INFORMATION TOOLS

100% of the information provided on the network's website is accessible.

TMB is currently improving the accessibility of its mobile app. It should be fully accessible by 2019.

## HUMAN ASSISTANCE

TMB's staff receives training on two topics: **knowledge of all equipment** dedicated to accessibility, and **instructions on how to tend to the diversity of their customers**.

## INNOVATION

TMB is currently researching an innovative project of **station orientation via beacon-based technology** for persons who are blind.





# SPAIN

## FGC , Barcelona

- Composition of network: metro, suburban railway
- ▶ 1st metro line: 1863
  - ▶ 3 lines
  - ▶ 98 stops
  - ▶ Covers the metropolitan area of Barcelona, with lines between 45 and 140km long
  - ▶ 80 million passengers per year



**FGC's network is 100% accessible. 100% of vehicles are accessible.**

The accessibility of the network was developed over the years, starting with rolling stock and platforms, main stations, and finally all other stations. The plans were completed in September 2017.

After conducting a **survey in collaboration with a wheelchair users' association**, FGC set a range of vertical-horizontal gaps as its threshold of acceptance. All vehicles are now accessible.

## TICKETING MACHINES

All 185 ticketing machines of the network are accessible.

The design of ticketing machines is **adapted for wheelchair users**. Special modes for persons with sight impairments and audio guidance for persons with hearing impairments are also available.

Furthermore, **the machines can be controlled from the control centre, and direct communication established with customers**.

## INFORMATION TOOLS

Public announcements are made on screens as well as via loudspeakers.

FGC launched a program to enable users to indicate their specific needs. **Based on an origin-destination request, passengers will be informed on the easiest route to take**, including the halls and train doors to use. The tool is expected to be available by 2019.

Since not all information tools can be made fully accessible, like boards or screens, FGC is designing **alternative technology-based solutions**, in collaboration with PRM associations.

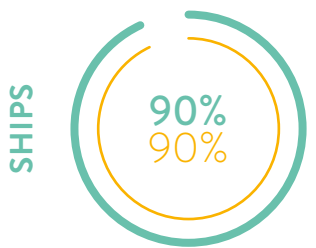


— Accessible vehicles — Accessible stops and stations

# SWEDEN

## STOCKHOLM COUNTY COUNCIL TRANSPORT ADMINISTRATION

- Composition of network: waterborne traffic
- ▶ 31 lines
  - ▶ 300 stops
  - ▶ 5,7 million passengers per year



**WATERBORNE TRAFFIC**

**90% of the ships and 90% of the network are accessible.**

An internal program to improve the fleet and network's accessibility is in progress. However, due to the special environment of the archipelago, it is unlikely that full accessibility can be achieved.

## TICKETING MACHINES

All of the 200 ticketing machines useable on the network are accessible.

## INFORMATION TOOLS

All of the network's information is available via more than one sensory channel. There is an ongoing internal project designed to make **information tools fully accessible by 2020**.

## DEDICATED SERVICE

A personal assistance service can be requested 24h prior to a journey.



Find out more about Sweden's accessibility strategy in the "Best practices" section of this report!

# UNITED KINGDOM

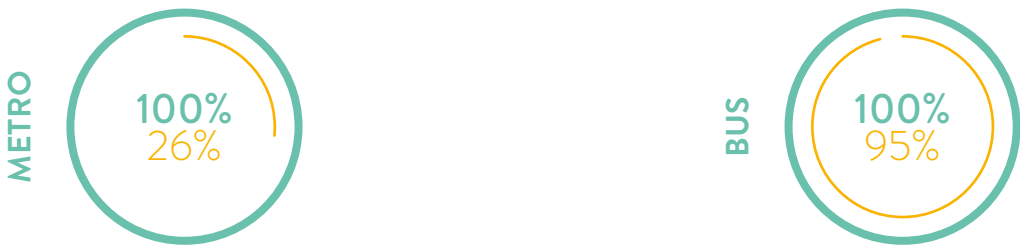
## TFL, London

Composition of network: bus, tram, metro, light rail (DLR), cable car, part of the suburban rail network, river services, public cycle scheme, regulation of taxis

- ▶ 1st metro line: 1863
- ▶ 700 bus lines, 11 metro lines, 4 tram lines
- ▶ 19,500 bus stops, 270 metro stations
- ▶ Covers the London area: 1,579 km<sup>2</sup>
- ▶ 6,5 million bus and tram passengers per year
- ▶ 7,3 million rail, metro and DLR daily journeys



© Pexels - Caio Resende



TFL has been implementing accessibility programs based on national legal requirements, as well as internal initiatives and EU law (for rolling stock), and follows an ongoing aim of harnessing new technology.

**100% of metros and 26% of the metro network are accessible today.**

TFL's current Business Plan foresees a £200M investment to bring the number of step free stations to 100, i.e. 30 more, which will make 40% of the network accessible. This program will be implemented by 2022.

Making the whole network completely step free is a huge challenge, due to high costs and practical considerations. Efforts are therefore concentrated on key interchanges, to ensure that people with mobility issues can link with the bus network where needed, which is fully accessible.

**All buses are indeed fully accessible, low-floored and equipped with ramps and audio announcement devices. 95% of bus stops are accessible.** Making the remaining 5% accessible is challenging, notably for topographical reasons.

## TICKETING MACHINES

All Londoners with mobility or other impairments, such as persons who are blind and elderly residents, get **free travel**. Visitors from elsewhere can either buy an Oyster card before their arrival, or travel using contactless bank cards and mobile phone apps.

Passengers who are blind can be **escorted to their train on arrival, and met at the end station** by their carriage on the platform. This is a **turn up and go service**, with no need to book in advance.

All London underground stations are staffed with **employees on hand** to help customers.

## INFORMATION TOOLS

TFL follows the guidelines for UK government websites by supporting W3's Web Content Accessibility Guidelines 2.0, Level AA.

As a result **all of the main information is accessible**, and TFL is constantly striving to improve the accessibility of the network. **The accessibility of apps, for instance, is currently being developed.**



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## HUMAN ASSISTANCE

TFL provides training covering the complete range of accessibility issues to its **staff**, which is **present at all times** of operation on all London Underground and London Overground stations.

## INNOVATION

TFL is developing **travel apps** aimed at people with mobility issues to facilitate their use of the network.





# ANNEX 1 - Best practices examples

To find out more, please visit [www.uitp.org](http://www.uitp.org)



## AUSTRIA - BARRIER-FREE MOBILITY AT WIENER LINIEN

In order for all customers of Wiener Linien (WL) to be able to travel flexibly and safely, barrier-free accessibility has been and remains one of the driving forces behind the design of vehicles, stations as well as the passenger information and orientation systems. Particular attention is paid to people with hearing, visual or mobility limitations.

### Ultra-low-floor trams, buses and underground trains

The extremely popular ultra-low-floor (ULF) trams have now been under way in Vienna for more than 15 years. In 2016, 307 of the total of 514 trams in service are ULF units. The ULF vehicles are specially highlighted on the digital departure time information displays at tram stops for the benefit of wheelchair users. The bus fleet of Wiener Linien already consists exclusively of low-floor vehicles which can be lowered even further by hydraulic means when required. The low entry height is a particular help to elderly people and passengers with prams or in wheelchairs when boarding or alighting. The modern V-type units operating on the underground are also barrier-free. Besides offering more space for passengers in wheelchairs and with prams, the gap between the edge of the platform and the vehicles has been minimised and extendible ramps have also been installed. Access to all underground stations and over 95% of all tram and bus stops is now possible barrier-free by means of ramps and lifts, making Wiener Linien a pioneer in this respect in Europe.

### Tactile guidance system

In order to make it easier for visually impaired and blind passenger to get around, many underground stations as well as bus and tram stops are equipped with a tactile guidance system. This system consists of light-coloured, raised guidance strips set into the surface of the platform running parallel to its edge. Branches off of this lead to lifts, stairs or escalators. Blind or severely visually impaired people with their main place of residence in Vienna – as well as all other holders of annual season tickets – can travel with a dog without needing to pay extra. Unless the dog has passed the official training course and been recorded in the disabled persons pass issued by the Federal Social Office, it is required to wear a muzzle.

### POPTIS and barrier-free Internet

Wiener Linien cooperates closely with associations for the disabled and self-help organisations as early as the planning phase for new systems in order to be able to correctly understand and optimally take into account the specific requirements of these customers. One of the most successful examples here is the POPTIS (Pre-On-Post Trip Information System) guidance system for blind and partially sighted individuals which was developed by Wiener

Linien in cooperation with organisations for the blind. The POPTIS route descriptions can be accessed via the barrier-free version of the Wiener Linien website. This website also provides up-to-the-minute news updates and other relevant information. The relevant pages have been specially designed to be viewed using screen-reader (text-to-speech) programmes which automatically read out the text so that both blind and partially sighted passengers have unrestricted access.

### Accessibility apps

Working in close cooperation with representatives of the Austrian Association in Support of the Blind and Visually Impaired, it has been possible to significantly improve the qando (passenger information) app by adding a screen reader. On Android and iOS smart phones with the latest update, the screen reader of the operating system now reads out loud the sections of text that users touch with their fingers. This makes the app easier to use for visually impaired people. The departure time monitor also communicates the distance to underground stations as well as bus and tram stops. Directions are also provided audibly using a clock-face system; for example: “The Neubaugasse stop is 109 meters away at 6 o’clock”. This function makes it easier for blind and visually impaired users to get around in the city.

## CZECH REPUBLIC - ACCESSIBILITY OF PUBLIC TRANSPORT SERVICES IN PRAGUE

Prague is the capital and the largest city in the Czech Republic. Prague covers an area of 496 square kilometres and with a population of 1.25 million inhabitants is the 14th largest city in the European Union. Almost 200 thousands commuters and 20 thousands visitors travel to Prague daily. This amounts to 1.5 million people and every day ensuring the seamless movement in the City of people, including those with special needs, is a big challenge for the Prague Public Transit Company (Dopravní podnik hl. m. Prahy, a.s., hereinafter “DPP”), the dominant public transport operator within the City of Prague. The European Accessibility Act will certainly support further accessibility improvement of the network – as long as it leaves running ongoing, successful initiatives, such as those undertaken by DPP since the 1990’s.

During the period since the shift from socialism to capitalism in 1989, the Czech Republic has been experiencing profound political, economic and – of course – public transport changes. Prague has one of the highest modal shares for public transport in the EU. In fact, 57% of all journeys are realized by means of public transport. Public transport is provided by door-to-door mobility services combining metro, bus, tram, waterborne and funicular transport with emphasis on accessibility.

Metro, with the first line opened in 1974, is the most important public transport mode and represents the backbone of the public transport network. Almost 50% of all public transport passengers use the metro as the main public transport mode. The other important public transport mode is tram transport, which carries almost 30% of all passengers.

Until 1991, accessibility of public transport was taboo. Improving conditions for travel by public transport also for passengers with reduced mobility has become, today, the main part of public transport strategy. It consists both in preparation and implementation of additional barrier-free access to metro stations and in other issues related to barrier-free travel of trams and buses of public transport (vehicles, stops, information system etc.). Metro in Prague was not initially constructed in a manner that made it accessible. That is why metro stations in Prague (excavated very deep under the street level up to 53 meters) were constructed without relevant equipment to be fully accessible. As a consequence of this, in 1989 all 36 metro stations offered restricted accessibility for persons with reduced mobility and/or orientation. The new stations built after 1991 are all equipped with lifts and/ or with special platforms. Barrier-free access routes to some of the selected older stations are additionally being established. Today, 43 of all 61 metro stations are fully accessible.. In accordance with the municipal policy for removing barriers in public transport system, it should be entirely barrier-free by 2025.

Significant efforts have been devoted by DPP to facilitating public transport for persons with reduced mobility and/or orientation in order to travel not only safe, but also with all the requisite services and information. After 1989 DPP started to intensively examine the barrier-free means of public transport and the new low-floor buses for passengers were introduced. Currently only low-floor vehicles are being purchased, both buses and trams, and the proportion of modern low-floor vehicles and the number of barrier-free metro stations are gradually increasing.

Transportation for persons with visual impairment requires a special approach. DPP is a world leader in regard to the deployment of an information system for persons with visual impairment travelling by surface transportation vehicles. By using the remote control this system enables activating a device that informs the passenger about the number and the direction of oncoming vehicles. Simultaneously the driver also receives an audible confirmation of the intent of a person with visual impairment to board the vehicle. The automatic announcement of stations in vehicles also makes it easier for all passengers to become oriented on the route. Special acoustic beacons are installed in every metro station for the purpose of improving orientation. They guide those passengers with visual impairment through the subways and the vestibules to the platform. These acoustic beacons can be activated by remote control as required by passengers. The stations are additionally equipped to meet the needs

of persons with visual impairment with, for example, emphasised safety zones or guide lines on the platforms.

DPP understands that the sustainability of public transport in the City goes hand in hand with the accessibility. Accessibility is not only about offering low-floor buses and trams, but it is also about barrier-free stops and metro stations that enable comfortable transfers between different public transport modes. If there is enough space, up-dated technical parameters, safety etc., common bus and tram stops are being built. Wheelchair access points represent a large and visible effort by the DPP to provide a maximal degree of service for accommodating the needs of passengers with reduced mobility and impaired orientation.

Accessibility is based on sustainable urban public transport and, vice versa, public transport accessibility represents an aspect of sustainability – i.e. it is a full circle. With additional investment in the public transport system including accessibility the City will become more and more attractive. Measures that have been implemented in recent years have resulted in an increase of public transport riders from 1.03 billion trips in 2000 to 1.19 billion trips in 2016 (i.e. 15% more). Prague is the example of a successful local accessibility strategy; the final text of the European Accessibility Act should be realistic and flexible enough as to help us further improve the accessibility of our network. Only then will the Act be useful to the users of the Prague transport public system.

## DENMARK - DANISH REGIONAL TRANSPORT AUTHORITIES

Flextrafik: Demand responsive transport

An integrated part of Flextrafik relates to transport of persons with reduced mobility: Flexhandicap. It is an alternative for people who are unable to use traditional busses and is a mode of transportation that ensures that highly disabled people get the same offers and possibilities as everyone else, even though they cannot use regular buses and trains or only use it with severe difficulty. Whether the service is used to visit family and friends, go shopping or participate in cultural activities, it is available all year round, 24/7.

Flexhandicap users can be transported 104 times during a year using this scheme. If more trips are needed, users can apply with their local municipality. It typically costs an annual fee of 40€ to be part of Flexhandicap, plus 3€ for the first 5km of every trip. An additional reduced fee is applicable for trips above 5km.

The vehicles used for Flexhandicap are designed to carry people in wheelchairs in a safe and comfortable way. Furthermore, members of Flexhandicap can ride for free with all of the Regional Transport Authorities' service buses. All service buses have ramps for wheelchairs, and street-

level entry. Drivers can help passengers to board and alight from the vehicles.

Many of the designated Flexhandicap busses are equipped with a stair climber which makes it possible to get up and down stairs with a manual wheelchair in buildings without elevator.

The Regional Transport Authorities have made nationwide Flexhandicap trips possible. To book a trip, users contact their Regional Transport Authority, which then takes care of the reservations, including through other regions. It is indeed a user friendly one-stop-shop.

## FRANCE - ACCESSIBLE ENSEMBLE, RATP

Mobility is a social issue of primary importance because it is all about providing access to urban activities, whether economic or leisure-related... This makes it a right for all citizens, including passengers with reduced mobility, which means both the disabled and seniors. A public service company, RATP (Paris Transport Operator) strives to meet the mobility needs of all its passengers. RATP's commitment to accessibility dates from well before the legislation adopted in France in February 2005. For example, a huge lift installation programme in RER stations which began in 1995, now ensures accessibility across almost the entire RATP RER network. Similarly, the first time a Parisian bus line was made fully accessible was in 1992. The law of 11th February 2005 confirmed the continuation of this programme in keeping with the framework fixed by the SDA (accessibility master plan) defined in 2009 by the Public Transport Authority in Île-de-France (STIF). Passengers with reduced mobility can now use the entire Paris bus network (63 lines), over 70% of the suburban bus network (i.e. 275 lines), 63 RER stations out of the 65 that make up the RATP network and all 7 tramway lines, plus line 14 of the Paris metro. The drive to make RATP networks accessible is being conducted in liaison with 9 associations grouped together within an Accessibility Consultative Committee (CCA1) set up in 2009. These association partners meet regularly to learn about and evaluate projects proposed by RATP: new stations as part of metro line extensions (4-11-12-14), new equipment such as a call terminal which is easily identifiable for the visually impaired thanks to a signal triggered on demand and also usable by those fitted with hearing aids. Currently, RATP is committed through the «EQUISENS» project to introducing equipment to facilitate accessibility for the sensory impaired (visual, auditory and mental) to its transport spaces. Included in the five-year investment programme signed with the STIF, it covers 383 metro stations and 65 RER stations. The fruit of collaborative thinking between RATP and its partner associations, it provides support in terms of identifying the different services, facilitating movement around stations and access to information.

## Highlighting good practices

RATP has developed numerous initiatives in terms of educating people about mobility. A range of products and services helps people to learn how to properly use public transport. Additional media (reminders, educational kits, animated films, etc.) are aimed at people with disabilities, social sector professionals, people on the path to social integration, senior citizens, etc. There are currently six animated films. Four of them are intended for passengers.

The other two films instruct RATP staff on how to help passengers who need extra assistance.

«The Adventures of Fred» teaches bus drivers about good practices to adopt towards people with reduced mobility: the elderly, passengers on crutches, the visually impaired, pregnant women, etc. The aim is to prevent the kind of falls that can occur on buses. The film features a bus driver who had to travel on the bus with his leg in plaster. Finding himself on the other side of the fence, he had to deal with situations regularly faced by passengers with reduced mobility: getting on the bus, reaching a seat, talking to other people with limited mobility ... He tells his colleagues all about his experience...

«Staff insight» raises the awareness of station personnel when it comes to assisting people with mental disabilities, through specific training. As in the other videos, the tone is one of positive interaction. With a sign-off message that RATP is keen to share with all of its staff: «It is up to us to ensure harmonious relations among all of our passengers and make the journey a positive experience for one and all».

## ITALY - MOBILITY INNOVATION: WHAT'S NEXT IN RIMINI?

### The background: Rimini tourist district

Rimini is one of the 9 provinces of the Emilia-Romagna Region and one of the most important destination for summer tourists coming from all over Europe and beyond thanks to the services and attractions which the city offers. Rimini is at the centre of a wider tourist district, 'Romagna Destination', running from Ravenna to Cattolica, which attracts more than 5 million (5.429.140) tourists every year, corresponding to about 27 million daily presences. The municipality of Rimini on its own, with a total population of about 150,000 inhabitants, though representing 2% of the territory of the Romagna Region, hosts about one third of the total tourists visiting Romagna area. Its bathing establishments are considered as the best in Italy in terms of level of service and attention to the customers.

However, management and services can't stand the pace, with old rules and with private cars as the most important



mode to reach the destinations. At present more than 80% of tourists come by car, which means that both motorways and local roads are rather congested over weekends and peak time in the summer season. A radical change is needed, a change that leads towards a sustainable, innovative and inclusive mobility system able to accompany the city in its massive regeneration process.

#### A new vision: a brand new pedestrian and cycling waterfront

Since the adoption of the Strategic Masterplan in 2008, built on a strong public participation process, Rimini is taking forward a massive integrated public works and urban regeneration process that embraces the historical city centre, the waterfront and other peripheral areas with the intent to create a new sustainable, attractive and inclusive destination for tourists and improve quality of life for its citizens.

One of the most qualifying and challenging projects is the regeneration of the 15 kilometres long waterfront with a key goal to be addressed: offer an attractive environment where clean water and green infrastructure enhance the quality of existing tourist offer.

The city is taking forward the most important drain system renewal of last 50 years in Italy, with a total budget of €154 million and able to purify water and reduce the existing bathing bans by 100% within 2020. At the same time the city intends to replace the existing grey infrastructure dominated by car parking and roads, with a new Sea Park ('Parco del Mare') to run in front of the sunny beaches and to be made of green infrastructure, cycling and walking paths, open air gyms and other functions and attractions aimed at attracting people looking for wellness and relax. As part of this integrated process, Rimini needs a different approach to transport accessibility and urban mobility, an approach that encourages the use of sustainable modes of transport both to get to the city and to move around that. All of this needs to be accompanied by a structural change in current transport solutions to embrace a new philosophy where walking, cycling, public transport and innovative sustainable mobility solutions cover most of tourist and citizens' trips, replacing current predominant use of private cars and motorbikes. This new approach is animating the Sustainable Urban Mobility Plan (SUMP) that Rimini is going to adopt this year, declining specific actions to be taken to reach the ambitious goals therein set.

#### A new sustainable mobility system

The SUMP ambitious goals are to reach the target of getting 50% of systematic trips (commuters, students etc.) made by sustainable modes of transport (bus, cycling, walking, electric and shared mobility) and to get tourists come to Rimini and move around in a sustainable way, thanks to the introduction of innovative and integrated solutions (train,

long distance buses, local public transport, bike sharing and rental schemes, sharing mobility, walkability etc.). The city is working hard in this respect, with a vision, well-structured projects, strong commitment and high stakeholders' participation in the process.

A clear example is the waterfront regeneration: the city is restructuring its road network in order to move crossing traffic away from the waterfront (that currently is still used to move from south to north of the city) to two outer road rings. Ongoing actions will allow the existing road close to the beach to be transformed in a sea park and local surrounding roads and streets close to the waterfront to be destined to a shared and integrated usage (cycling, pedestrian, cars, last mile logistic operators) mainly for short trips and subject to restricted speed limits (30km per hour) for cars. In parallel, substantial investments in the local public transport systems have been taken forward: a bus rapid transit scheme (named TRC) is under construction and will be running along the coast. The first lot of trolleybus running on a dedicated line from Rimini to Riccione (a municipality in the south of Rimini) will be ultimate in 2018, but the network is planned to expand southern up Cattolica with the same technology and northern up to Ravenna integrating the new system with the local rail service.

The entry into service of TRC will radically reduce the traveling time along the coast and rise the quality of service: the service will take about 25 minutes to take passengers from the station of Rimini to Riccione, a trip that at peak time can take up to one hour and a half with existing trolleybus; it will also allow people to get on new fully accessible coaches equipped with all travelling comforts (air conditioning, video surveillance, written and voice messages, two seats dedicated to wheelchairs, possibility to carry on bikes on the coach etc.).

The new system will radically improve passengers' travelling experience, especially that of those with reduced mobility that will benefit from a more inclusive and friendly infrastructure. TRC will also determine a deep revision of existing local public transport network and accessibility.

#### Innovation to grant inclusion

Accessibility is certainly one of the key challenge to address in shaping the new waterfront: by taking cars out of the waterfront people right to move around should be enhanced and not limited. In many occasions still private cars are seen as the best solution for people with special mobility needs as the city design and physical features (e.g. streets design, old pavements, lack of slides etc.) and/or poor quality of public transport services provided, create barriers to older travellers, people with disabilities or other type of passengers.

The challenge currently faced by Rimini is to make sure the new waterfront is inclusive for all and fully accessible by means of sustainable modes of transport. In order to do this, the needs of people who are mobility impaired are put at the

top of infrastructure design and transport service planning. «What does an elderly granny need when she takes her three years old nephew from the hotel to the beach? What does a mum in her thirties need when getting off the bus with luggage and children to reach her accommodation? What does a man in a wheelchair need to safely catch a bus and move around the sea park? What does a German young boy getting off a long distance coach need to find his way around in a city he has never been before?»

These are only some of the questions that are inspiring the construction works and the projects Rimini is taking forward. Passengers, tourists, have the right to get high standards of accessibility and mobility services. The European Union is very active in this field, with a range of Directives and Regulations aimed at achieving common access standards for vehicles (buses and trains) and at embedding the concept of passenger rights (across all modes). Cities, though, have the huge responsibility to grant passengers' with reduced mobility rights once they get off a train, a plane or a bus and make sure they can safely move around. Rimini currently has a great opportunity and is highly committed to take a leading role in this process, making people and tourists' needs shaping the structure of the new waterfront to be built. The city has developed innovative ideas that intends to take forward to shape a radically new mobility system along the waterfront and to grant efficient and inclusive solutions for last/first mile trips connecting people origin and destinations to the hubs of the new fully accessible bus rapid transit line to be opened soon. A network of walking and cycling infrastructure fully integrated to public transport will be realized; at the same time new electric and shared public transport services, inspired by innovative ride-sharing schemes, will be put in place to complement first/last mile connections, giving special attention to passengers' with reduced mobility needs. Recently the Municipality of Rimini, in partnership with UITP, ITL Foundation, University of Bologna and other private and public entities, including National Association of Handicapped Travel Guide Legislation (ANGLAT), applied to the second call of the Urban Innovative Action Initiative, with the aim to get funding to test and implement these innovative ideas along the renewed waterfront.

### SWEDEN - VÄSTTRAFIK WORKING TOGETHER WITH PASSENGERS TO EVALUATE THE ACCESSIBILITY OF NEW TRAMS

In order to test the design of Gothenburg's new trams, a full scale model has been built. A group of passengers with special needs were invited to test its accessibility, something which provided valuable feedback and has led to several improvements being made.

Västtrafik, the PTA of West Sweden, has procured new trams in cooperation with Göteborgs Spårvägar (Gothenburg's tram operator). The trams will be supplied by Bombardier in 2019. In order to test the design before the series production starts, a full scale model of a part of the tram has been built in Berlin, Germany. This mock-up makes it possible to evaluate a number of important factors, such as the design of the driver's cab and how to provide the best customer experience.

When it comes to customer experience, everything from material- and colour choices to door functions, the location of ticket validators and the placement of seats and stop buttons is evaluated. In order to ensure that the new trams are accessible to as many individuals as possible, Västtrafik asked four people with different special needs for help: one person using a wheelchair, one using a walker, one with impaired vision and an elderly person. They were invited to test the mock-up on location in Berlin.

"Improving the accessibility of public transport is important to us and we want to make sure that the new trams are as accessible as possible", says Helene Frahm, project manager at Västtrafik.

The visit took place 15-16 August and the participants tested many different aspects, such as the height of seats designated for people with reduced mobility, the space available for turning a wheelchair inside the tram and the access to stop buttons, ticket machines and handles.

There were many interesting and rewarding discussions during the visit and it has led to several adjustments being made to improve the accessibility of the trams. For example, the handles in places dedicated to wheelchairs will be extended and lowered and the adjacent ticket validator will be placed closer to the floor. Also, there will be clear markings on the floor by the doors where the inclination starts to prevent accidents. Furthermore, the space in front of one seat has been adapted to provide room for a guide dog. What is more, the distance between the floor and the folding seats will be prolonged and footrests will be available at the seats designed for people with reduced mobility.

One of the people who helped evaluate the accessibility of the new tram is Henrik Ehrlington. He concludes that it was rewarding to discuss different solutions together with representatives from Västtrafik, Göteborgs Spårvägar and Bombardier:

"It's good to make this kind of evaluation early in the building process to improve accessibility. It's a matter of compromise to find the best possible solution, but I think we were quite successful."

# ANNEX 2 - Legal framework (non-exhaustive)

## INTERNATIONAL

- UN General Assembly, Convention on the Rights of Persons with Disabilities, 13 December 2006, A/RES/61/106
- Council of Europe, European Social Charter (Revised), 3 May 1996, ETS 163

## EUROPEAN UNION

- Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility
- Regulation (EU) No 181/2011 of the European Parliament and of the Council of 16 February 2011 concerning the rights of passengers in bus and coach transport and amending Regulation (EC) No 2006/2004
- Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community
- Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations

## NATIONAL

### Austria

- Federal Law on Equality of Persons with Disabilities (Federal Disability Discrimination Act - BGStG), 10 August 2005

### Czech Republic

National Plan for the Promotion of Equal Opportunities for Persons with Disabilities 2015–2020, Approved by Resolution of the Government of the Czech Republic No. 385 of 25 May 2015

### France

- Law n°2005-102 of 11 February 2005 for equal rights and opportunities, participation and citizenship for people with disabilities

### Germany

- Equality for Persons with Disabilities Act (BGG), 27 April 2002
- Public Transport Law (PBefG), 27 April 2002
- Municipality Transport Financing Law (GVFG), 27 April 2002
- Basic Law of the Federal Republic of Germany (GG), 23 May 1949

### Hungary

- Act no. CXXV of 22 December 2003 on Equal Treatment and Promotion of Equal Opportunities
- Government Decree No. 253/1997 of 20 December 1997 on the National Settlement and Building Requirements (OTÉK)

### Italy

- Accessibility issues are covered by national and regional law. All new and refurbished vehicles must be fully accessible.

### Romania

- Law no. 448/2006 of 06 December 2006 Regarding the Protection and Promotion of the Rights of Disabled Persons

### Spain


- Royal Decree 1544/2007 of 23 November 2007 establishing the basic conditions for accessibility and non-discrimination for access to and use of transport means for persons with disabilities
- Order VIV/561/2010 of 1 February 2010 developing the technical documentation for basic accessibility conditions and non-discrimination for access to and the use of urbanised public spaces.-

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