

Solution n.1

Mean of transportation: urban buses

Goal: Specifications towards more accessible public transport app

1.1 Make public transport app usable by visually impaired people as all other users do, making it fully accessible (VoiceOver service of the smartphones has to fully interact with all the functions of the app) – expected in 2023

1.2 Make public transport app able to inform users (real time) about possible delays and accessibility of the bus (presence of the ramp on board) – expected in 2023

1.5 Insert in public transport app a function able to create an accessible itinerary (using buses that have a ramp on board allowing wheelchair users to board and disembark from the bus) - expected between 2024 and 2025

1.6 Insert in public transport app a function that allows passengers to buy and validate the ticket on board directly from the app - even without using the validating machine of the bus - expected in 2026

Solution n.2

Mean of transportation: urban buses

Goal: Recommendations for enhanced bus stops

2.1 Make the bus stops identification names unique (e.g. adding a geographic landmark or the bus direction) - expected in 2023

2.2 Spread additional information that can be accessible by visually impaired people - possibly through the public transport app and on the bus - about the non-standard location of the bus stops (e.g. some stops are located on the traffic divider rather than on the sidewalk like all the others) and real time information about roadworks that force the bus stop to be moved - expected between 2024 and 2025

2.3 Make the bus stop location standard, so they can be more easily found by visually impaired people (e.g. making them more quickly recognizable) – expected in 2026

2.4 Post at bus stop information plaques (in English as well) indicating that timesheets (and in the future accessibility info as well) can be read also on the public transport app. Pair a QR code that links to the digital timesheets – expected in 2023

2.5 Standardize the height of the bus stop platform so wheelchair users can avoid danger or difficulties when boarding / unboarding from the bus – expected between 2025 and 2026

2.6 Provide a system (even digital - through the public transportation app) that allows to book the bus stop, so that passengers with disability waiting for the bus may notify the drivers about their intention to board the bus – expected between 2025 and 2026

Solution n.3

Mean of transportation: urban buses

Goal: Recommendations for fully accessible buses

3.2 EXISTING BUSES - Equip future buses with tactile floors so that visually impaired passengers can be informed about the location of onboard services (validating machine, exit, etc.) – expected in 2026

3.3 EXISTING BUSES - Translate information written on onboard validating machines in Braille; create digital solutions that allow visually impaired passengers to get accessible info about validating procedures (also making fully accessible the whole purchase and validating process) – expected in 2026

3.4 EXISTING BUSES - Modify the contactless bus ticket purchasing machine so it can communicate with a vocal assistant what appears on the screen and/or make a confirmation sound that the user put the bank card in the right position and the transaction was successful – expected in 2026

3.5 EXISTING BUSES - Make the onboard voice assistant (the one that reads the name of the following stop) always working, set at the right volume over the whole length of the bus; set the voice assistant so it repeats the bus stop name when the bus is stopping, so the information can be well heard by all the passengers (when stopping, noises of the moving bus are minimal and the voice assistant can be better heard) – expected in 2023

3.6 EXISTING BUSES - Limit the number and frequency of voice messages played onboard the buses: there are too many and they often are redundant (e.g. “beware of the pickpockets”; “wear a facemask”), furthermore they limit other messages that help visually impaired passengers to be oriented – expected in 2026

3.7 EXISTING BUSES - Make the onboard voice assistant that reads the number of the bus line when the bus is stopping always working; it is particularly useful for visually impaired people waiting at the bus stop specially when multiple buses stop at the same time – expected in 2023

3.8 Reshape the space reserved for wheelchair users, considering the actual dimensions of wheelchair and a potential increase of wheelchair users when the public transportation will be fully accessible – expected in 2026

3.9 Reshape the handles positioned in the space reserved for wheelchair users, mounting them over 90cm from the floor (some handles are mounted at

a lower height and can obstacle the movements of wheelchairs, furthermore they are not useful at that height) – expected in 2025

3.10 Make handles and safety belts for wheelchair users present in all buses; improve the quality and efficiency of the ineffective ones so safety onboard can be always guaranteed for all passengers – expected in 2024

3.11 Protect more efficiently the space reserved for wheelchair users, possibly mounting handles that can be moved in order to better protect them from the interaction with other passengers onboard – expected in 2025

3.12 EXISTING BUSES - Make the push button reserved for wheelchair users always working – expected in 2023

3.14 Make the button panel that is at disposal of wheelchair users able to communicate to the driver and to give feedback to the wheelchair users when the request for the bus to stop is sent and received by the driver – expected in 2024

3.16 Mount a digital screen on all buses that informs the passengers about the name of the following stop, and include also an information panel that repeat as a written message what said by the voice assistant onboard (function useful also for people with hearing impairments) – expected in 2025

3.17 Standardize the location of the ticket issuing and validating machines onboard the bus, locating them side by side on all buses and close to the seat reserved for wheelchair users (in a position lower than the current one) – expected in 2026

3.19 Guarantee a minimum number of accessible buses running every day so a certain percentage of accessible bus rides can be guaranteed (bus with onboard ramp) – expected in 2024

Solution n.4

Mean of transportation: urban buses

Goal: Recommendations for transport provider staff

4.1 Have drivers stop when they see a cane for people with visual impairments (the use of which is recommended for all people with visual impairments when they are waiting at a bus stop, to signal their presence) – expected in 2023

4.2 Train all drivers in the use of manual and electric ramps – expected in 2023

4.3 Drivers should limit the cruising speed of the bus when wheelchair users are onboard – expected in 2023

4.4 Ensure that drivers always stop in front of a wheelchair user waiting at the bus stop, who must be clearly visible – expected in 2023

4.5 Make sure that the drivers, upon returning to the depot, check the operation of the assistance devices for people with disabilities (e.g. voice assistant, push-button panel, ramp) and report any malfunctions so that the transport company can intervene immediately – expected in 2026

Solution n.5

Mean of transportation: car sharing

Goal: Recommendations towards an accessible car sharing

5.1 Make car sharing booking app accessible for visually impaired people, giving them the possibility to make a booking for a third person (the one that actually signed the agreement of use) – expected in 2025

5.2 Put in the car sharing fleet some cars suitable for transporting people moving on a wheelchair; they should be big enough, so comfort and safety are always guaranteed to all passengers (also when the ramp is not being used) – expected between 2025 and 2026

5.3 Put in the car sharing fleet some adapted cars that can be driven by people with physical disabilities; these cars can be adapted only when needed with a self-mounting kit – expected between 2025 and 2026