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Transnational assessment report

Innovative transportation services for blind and partially sighted passengers in Danube region
DANOVA

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1. INTRODUCTION

Visual impairment is a broad term that refers to any degree of vision loss that affects a person's ability to perform the usual daily living activities and cannot be corrected to normal vision, even if the person wears glasses or contact lenses. It is not a disease itself but a result of illness, injury, or other trauma that affects the structures and functions of the visual system. The term "visual impairment" includes blindness, and the word "visually impaired" refers to both blind and partially sighted persons. When a person experiences limitations and impairments while interacting with the environment, and/or performing tasks due to an impairment, we speak of a disability.

People with visual impairments may feel disabled if they do not have adequate access to supports and services and face barriers such as discrimination or inaccessible buildings or transportation. It has been estimated that 96% of the transport system in the EU is still not fully accessible to blind and partially sighted people (European Blind Union), and that accessibility is extremely low in many countries in the Danube Region. Furthermore, significant differences in the level of accessibility between countries and between cities/regions within a country have been identified. As a result, over 30 million blind and partially sighted people cannot travel independently.

For blind and partially sighted passengers, the lack of accessibility features such as tactile surface indicators (TWSI), tactile orientation maps, large print and Braille signage, audio signage, screen reader-friendly websites, and applications, makes it extremely difficult and, in some cases, impossible to use conventional transportation systems (airplanes, buses, trains, public transportation). In these cases, they rely on the assistance of a sighted person (their personal assistant, member of staff, or a random passer-by), which ensures their ability to travel but still imposes some limitations compared to the travel experiences of sighted people.

Although there are laws, regulations, and procedures both at the EU and country level, enforcement of these rules is often a problem. Most countries in the Danube Region have difficulties fully implementing the standards. The reasons are very often: lack of expertise of authorities in ensuring accessibility, general compliance of legislations in public tendering procedures, insufficient allocation of resources, etc.

DANOVA aims to improve the accessibility of airports, seaports, train stations and bus terminals for blind and partially sighted people by developing a range of new services and skills to enable full access to all transport information, facilities, and services where visually impaired persons are no longer considered as “discriminated passengers to be assisted” but citizens who can travel independently and use all offered services as other passengers without disabilities. To improve the accessibility of transportation terminals, an assessment of the current status is required. Therefore, the DANOVA assessment methodology has been developed and used at nine DANOVA test sites (transportation terminals). Additionally, the assessment methodology was used at Chisinau airport, which is not a DANOVA test site. Accessibility of each terminal was assessed, resulting in local assessment reports that include a proposal on interventions to be implemented at each terminal to improve accessibility for visually impaired persons. These local reports should assist the transportation terminal managers to develop an action plan addressing the most critical accessibility issues. This transnational assessment report summarizes findings from all ten local assessment reports. It provides the first snapshot of accessibility to blind and partially sighted passengers in participating territories.

2. DANOVA ASSESSMENT METHODOLOGY

To understand the results of local assessments done within DANOVA, a short overview of assessment methodology is provided. In the context of DANOVA, the focus is on unhindered access to transport terminals (airports, ports, train/tram, and bus stations), which includes physical access, access to pre-travel and post-travel information, and access to services supporting blind and partially sighted persons. DANOVA assessment methodology provides a common methodological approach to assessing the level of accessibility for visually impaired passengers in all before mentioned areas. But it does not include accessibility assessment for passengers with other types of disabilities (e.g., wheelchair users).

The DANOVA assessment methodology allows for evaluations of accessibility for different transport terminals, from airports and ports to train and bus stations, from large terminals to smaller ones. The methodology addresses the physical accessibility of each transport terminal and verifies the policies and standards of each assessed site and compliance with national regulations. The assessment consists of three main segments:

1. review of national environment (regulations),
2. off-site assessment (access to information and rules of conduct),
3. on-site assessment (built environment assessment).

All local assessment reports contain a review of national regulations, setting minimum or required standards for accessibility. In the off-site assessment of the transportation terminal, disability awareness policies, standards, and staff trainings are evaluated. As part of the off-site assessment, access to information is reviewed (including access to information about the transportation terminal before and after the trip). In on-site assessment, the built environment is assessed (the building(s) themselves). This part reflects the different characters of transport terminals – in large terminals, many elements need to be reviewed, therefore reports are more complex.

Within DANOVA the assessment is organized within modules making assessment process as well as outcomes easier to understand. As already mentioned, there are two distinct parts of the assessment – the off-site and on-site assessment. The former is composed of eight modules related to access to information and rules of conduct, while the latter deals with built environment and is composed of eleven modules.

- Off-site assessment modules - Access to information and rules of conduct
  1. Accessibility policies
  2. Customer service standards
  3. Disability Awareness Training
  4. Website
  5. Smart-phone app
  6. Telephone services
  7. Personalized assistive technologies
- DANOVA Modules On-site assessment – Built environment
  8. Approach and departure to and from the site
  9. Entrance to the site
  10. Inside circulation
  11. Security screening and customs
  12. Sanitary facilities
  13. Shopping and catering facilities
  14. Waiting areas
  15. Departure point(s)
  16. Arrival point(s)
  17. Evacuation routes
  18. Exit from the site

Each of these modules is built using DANOVA building blocks:

- Parking – car
- Parking – taxi
- Bus stops
- Tram stops
- Train stops
- Signs
- Displays
- Paths, corridors
- Travellators / Passenger conveyers
- Doors
- Stairs
- Ramps
- Lifts
- Escalators
- Counters
- Machines
- Toilets
- Service animal relief
- Evacuation route

DANOVA modules are custom built according to specifics of each terminal. The relationship between DANOVA building blocks and DANOVA modules is shown in figure below.

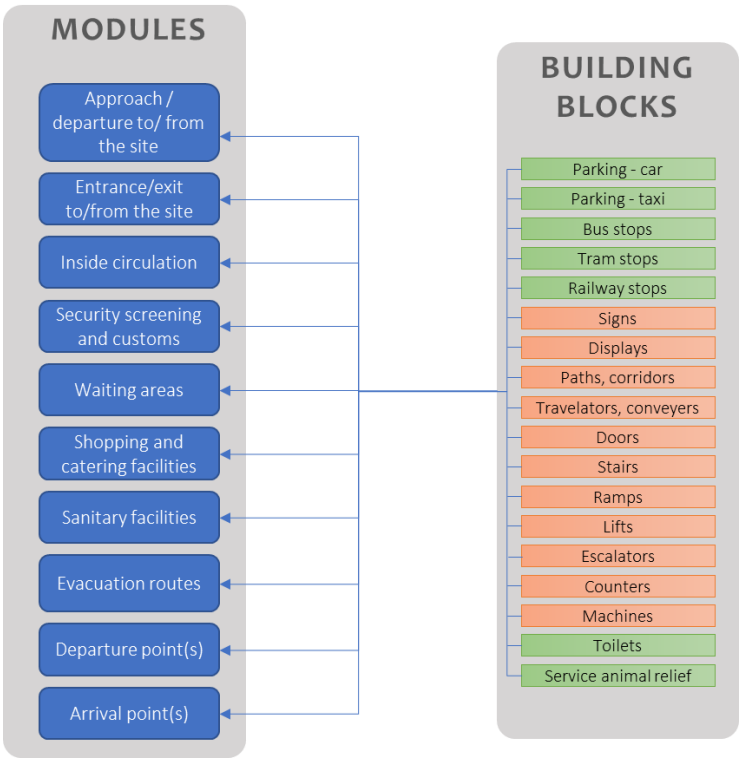


Figure 1: Relationship between DANOVA modules and building blocks

For more details on modules and building blocks, please see DANOVA Assessment methodology.

2.1. Assessment process

Assessing the accessibility of a transport terminal is a multistep process (see Figure 2) that requires a dedicated audit team, as this is not a task for a single person.

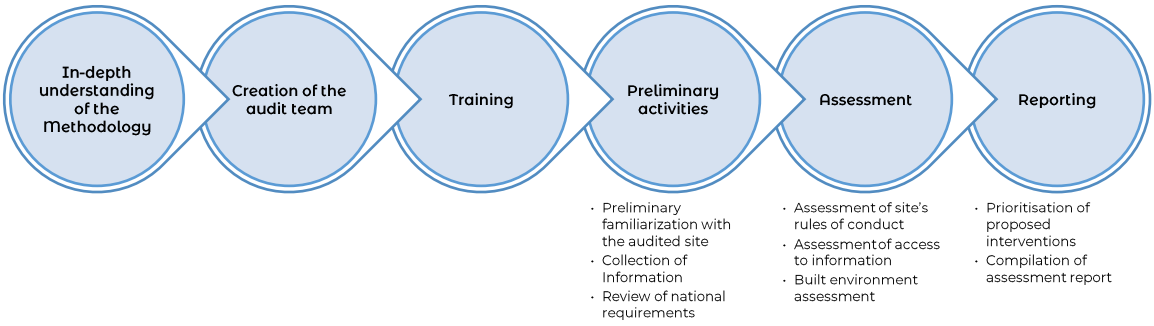


Figure 2: DANOVA assessment process

The process starts with in-depth understanding of DANOVA Assessment methodology by whoever is organizing the assessment process. Within DANOVA project, the organisation of assessment process was under responsibility of following partners:

- Dubrovnik airport: assessment of four test sites (airports Dubrovnik, Sarajevo, Podgorica, and port of Kotor,
- Port of Dubrovnik: Dubrovnik port
- Budapest airport: assessment of one test site (Budapest airport)
- Zilina airport: assessment of one test site (Zilina airport)
- Centre for Budapest Transport: assessment of one test site (Budapest public transport – selected stops/station)
- Municipality of Maribor: assessment of one test site (Maribor main bus station)

These partners took over the implementation of assessment process including coordination of activities and establishment of audit teams[1]. According to the methodology, the minimum number of people on the audit team is two; ideally, the team should consist of at least four people:

1. representative of the transport terminal (provides background knowledge of the building, operational procedures, specific legislation etc., and grants access to restricted areas accessible to passengers)
2. expert in the field of accessibility for visually impaired persons (should act as a team leader to coordinate the work of the audit team)
3. representative(s) of blind and partially sighted persons. It would be ideal to have two representatives – one blind person and one partially sighted person.

[1] For details on implementation see *Chapter 5*. The assessment process of all audited sites was carried out by audit teams specifically set up to implement the DANOVA methodology. Within this chapter, the experiences of audit teams and their recommendations for followers are summarized.

Audit teams

Before the assessment begins, members of all teams need to be trained on the use of the DANOVA assessment methodology. These training took place on-line and are available as recordings. In the online training, all aspects of evaluation were discussed.

The next step in the process is the familiarization of the team with the transportation terminal being assessed. Initial site visits need to take place to allow audit team members to gain a basic understanding of the site being audited.

The process continues with the collection of information on national regulations and standards, rules of conduct (policies, standards, information about staff training), and information sources (webpage, apps, information/telephone services). Once all data are collected, a review of national requirements takes place. In this phase, the team members should be familiarized with the national regulations and standards. If this is not the case, it will be impossible to assess the site's compliance in later phases. At this stage, the actual assessment begins with an evaluation of the site's code of conduct covering three different aspects - accessibility policies, customer service standards, and disability awareness trainings. To obtain this information, interviews with terminal managers need to be conducted. In parallel, assessment of access to information takes place. There are four elements to be considered – website, dedicated smartphone app (if available), telephone services and possibility of personalized assistive technology use. For websites and smartphone apps, compliance with W3C standard levels A/ AA or AAA are checked. Third-party apps are not subject to the assessment. The audit team also checks whether the site offers information (and reservation of special services for people with disabilities, if applicable) via the phone and whether personal assistive technologies are available or can be used at the transport terminal.

The assessment of the built environment is the central part of the audit. All areas of the transport terminal accessible to passengers are inspected, including restricted areas of airports and ports (passenger areas behind security checkpoints).

Once all three main segments have been evaluated, the evaluation report is prepared. Based on the findings, audit teams draw up recommendations on how to improve the accessibility of the terminal. Recommendations are given in the form of a proposal for interventions ranked from most to less urgent. The audit team compiles a report containing a brief presentation of the transportation terminal, recommendations in the form of prioritization of interventions, and an evaluation grid (all tables used for the evaluation). The central part of the report is the prioritization of the interventions to be used by the transportation terminal manager for the creation of an action plan for improving the accessibility of the terminal.

2.2. Assessment criteria

The DANOVA assessment methodology uses a five-point scale evaluation based on hazardousness, accessibility, and satisfaction criteria. Criteria of hazardousness are used for the built environment within on-site assessment where bodily harm can occur. It is not used for evaluation of the off-site assessment, including access to information and rules of conduct.

DANOVA five-point scale:

1. Hazardous, inaccessible, and unsatisfactory
   The evaluated element is dangerous and poses a hazard to blind and/or partially sighted persons, and the element is inaccessible and is rated unsatisfactory by blind and/or partially sighted persons, it receives the lowest score (1) and is given the highest priority for intervention. All three conditions must be met to assign the lowest rank 1.

2. Inaccessible and unsatisfactory
   The rated element is inaccessible and assessed as unsatisfactory by blind and/or partially sighted persons but does not pose a hazard to passengers with visual impairments. The element is rated with rank 2.

3. Unsatisfactory but acceptable
   The element is rated unsatisfactory by blind and/or partially sighted persons but does not pose a hazard to passengers with visual impairments, nor is the element inaccessible. The element is evaluated with rank 3.

4. Accessible and acceptable
   The element is rated as acceptable and accessible to blind and partially sighted persons; the element is rated with rank 4.

5. Accepted as a Best Practice
   The element is rated as acceptable and accessible to blind and partially sighted persons and shows a suitable way of implementing standards. It is essential that the element is rated as exemplary by the expert or representative(s) of the visually impaired. It is essential that the element works for the intended user(s) - if the solution is very innovative but does not work for visually impaired people (e.g., due to its complexity), it cannot be given the highest rank. The solution is something that works and can/should be transferred and implemented elsewhere; the element is evaluated with rank 5.

Ranking of specific element provides basis for recommendations in form of proposed interventions. All elements rated 1 are assigned highest priority for intervention, followed by elements rated 2. The fully accessible transport terminal (airport, port, train/tram and bus station) cannot have elements rated 1 or 2, all ranks must be 3 or higher. The rating system, used in assessment grid, is shown in the table below.

Table 1: Assessment rating system

Evaluation rank	Evaluation Criteria	Symbol	Priority for intervention
1	Hazardous, Inaccessible and Unsatisfactory		Highest
2	Inaccessible and Unsatisfactory		High
3	Unsatisfactory but acceptable		Moderate
4	Accessible and Acceptable		Low
5	Accepted as a Best Practice		None

2.3. Prioritization of interventions

As already mentioned, the prioritization of interventions is the main part of the assessment report. Based on the assessment grid, interventions are proposed for all elements:

1. ranked with 1 (Hazardous, Inaccessible and Unsatisfactory),
2. ranked with 2 (Inaccessible and Unsatisfactory),
3. ranked with 3 (Unsatisfactory but acceptable).

Interventions proposed for elements ranked with 1 (posing a danger to passengers) are given highest priority, interventions proposed for elements ranked with 2 are given medium priority, interventions proposed for elements ranked with 3 are given low priority. This results in priority list of interventions that should assist the transportation terminal manager in development of an action plan addressing the accessibility issues. If the assessment does not include items rated 1, 2, and 3, the transportation terminal is rated as fully accessible to persons who are blind and partially sighted. In each of the assessment reports recommendations are given in form of interventions. The list of interventions proposed within the audit is aimed at site managers to improve the assessed terminal. The interventions are ranked from most to least urgent which should make easier to prepare an action plan for improvement of assessed site.

3. TRANSPORT TERMINALS

The assessment of the accessibility to blind and partially sighted passengers was performed in all transportation facilities where the DANOVA testing is implemented, additionally assessment was done for Moldavian airport of Chisinau. Assessment was done for ten sites consisting of six airports, two seaports and two public transport systems:

- Dubrovnik airport (HR)
- Zilina airport (SK)
- Sarajevo airport (BA)
- Podgorica-Tivat airport (ME)
- Budapest airport (HU)
- Chisinau airport (MD)
- Dubrovnik port (HR)
- Kotor port (ME)
- Budapest public transport (HU)
- Maribor public transport (SI)

Location of DANOVA sites (terminals), where assessment methodology was used, is shown below.

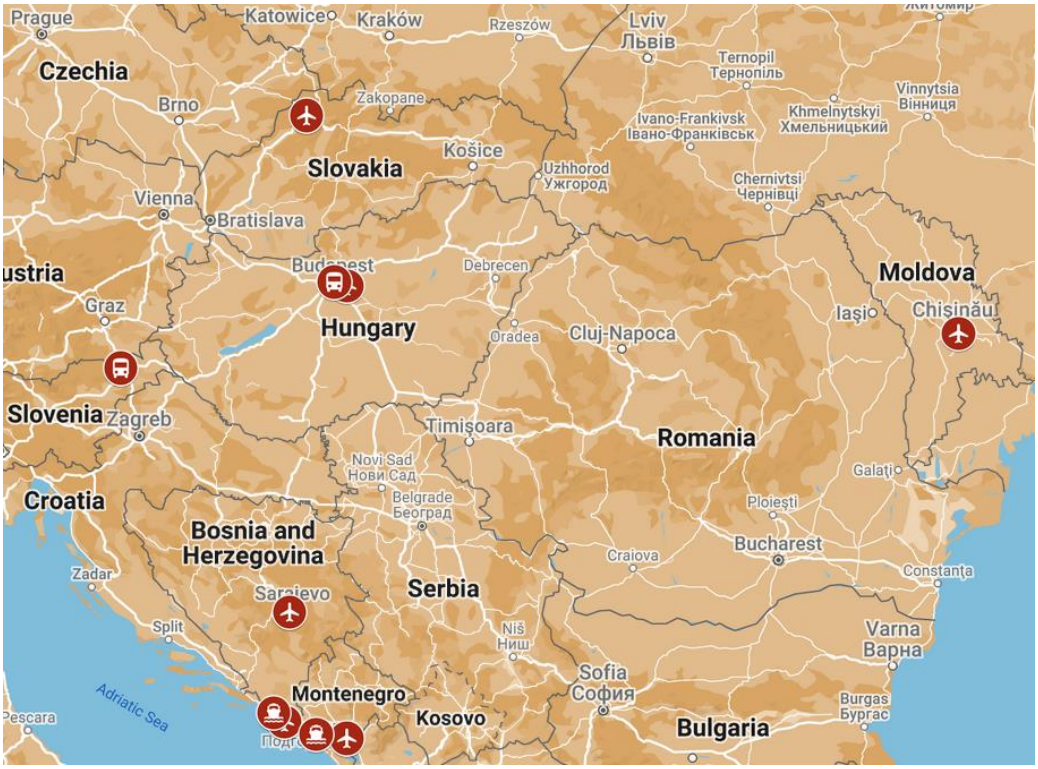


Figure 3: DANOVA testing sites – all terminals

3.1. Airports

Assessment of accessibility was done at six airports of different sizes. By far the largest airport is Budapest Ferihegy airport with almost 4 million passengers in 2020 (over 16 million in 2019), four medium-sized airports, Dubrovnik, Podgorica, Sarajevo and Chisinau, with up to 390,000 passengers in 2020 (between 1.1 million to 2.8 million in 2019), and small airport of Zilina with few hundred passengers in last years. The impact of COVID-19 epidemics is evident as all airports, except for Zilina, have faced a significant decrease in the number of passengers. All airports can be accessed by car, bus, and taxi, while none has rail or tram connection at the airport.

Table 2: DANOVA testing sites – airports

	Country	Passenger throughput	
		2019	2020
Dubrovnik airport	Croatia (HR)	2.898.246	332.167
Zilina airport	Slovakia (SK)	349	268
Sarajevo airport	Bosnia and Herzegovina (BA)	1.143.680	249.642
Podgorica-Tivat airport	Montenegro (ME)	1.297.365	343.187
Budapest airport	Hungary (HU)	16.173.489	3.859.379
Chisinau airport	Moldova (MD)	1.575.500	385.100

Figure 4: DANOVA testing sites – airports

3.2. Ports

Assessment of accessibility was done for two passenger seaports located on the south-eastern coast of the Adriatic sea. The Port of Dubrovnik is used by ferries and cruise ships, while the port of Kotor is used only by cruise ships. Both ports are of similar physical size, but the port of Kotor had much more passengers in 2019. The negative impact of COVID-19 epidemics is seen in both ports, the number of passengers has significantly dropped in 2020.

Both ports have access by road (bus, car, and taxi), none of the ports has rail or tram connection.

Table 3: DANOVA testing sites – seaports

	Country	Passenger throughput	
		2019	2020
Dubrovnik port	Croatia (HR)	69.049	4.533
Kotor port	Montenegro (ME)	613.747	3.009

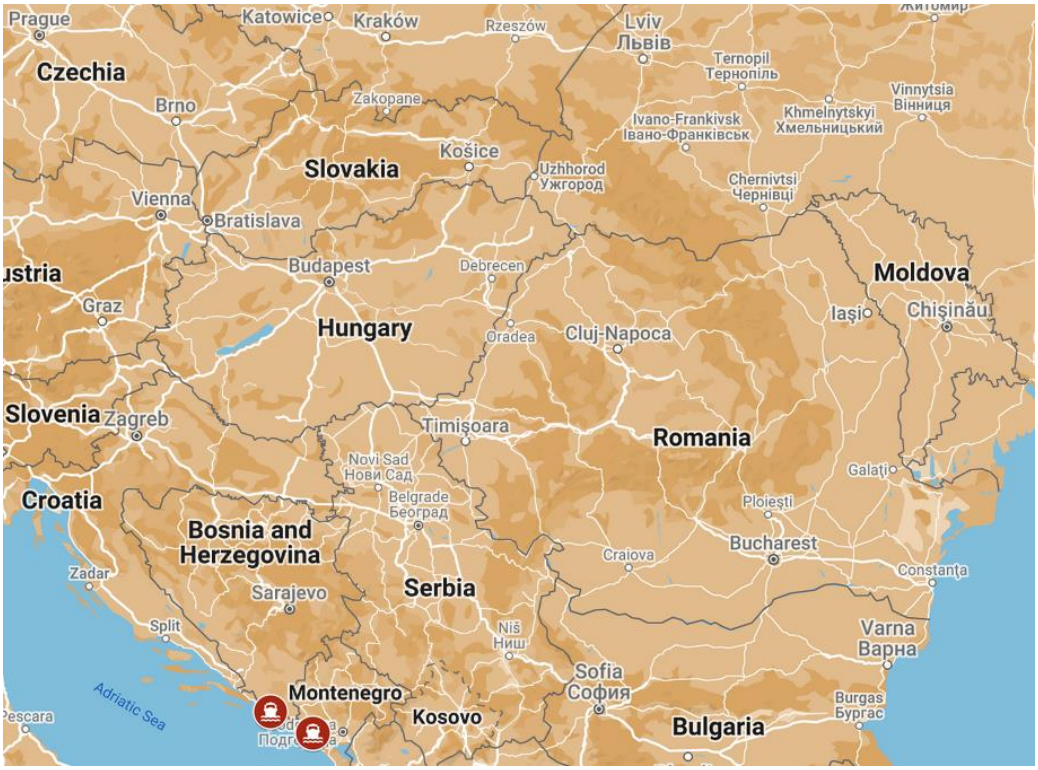


Figure 5: DANOVA testing sites – seaports

3.3. Public transport systems – bus

In the assessment of accessibility, two public transport systems were included – the public transport system in Budapest and Maribor. The public transport system in Budapest is an extensive system of buses, trams, metro, and trolleybuses transporting more than 4,6 million passengers per day. The public transport system in Maribor is much smaller and consists of buses only.

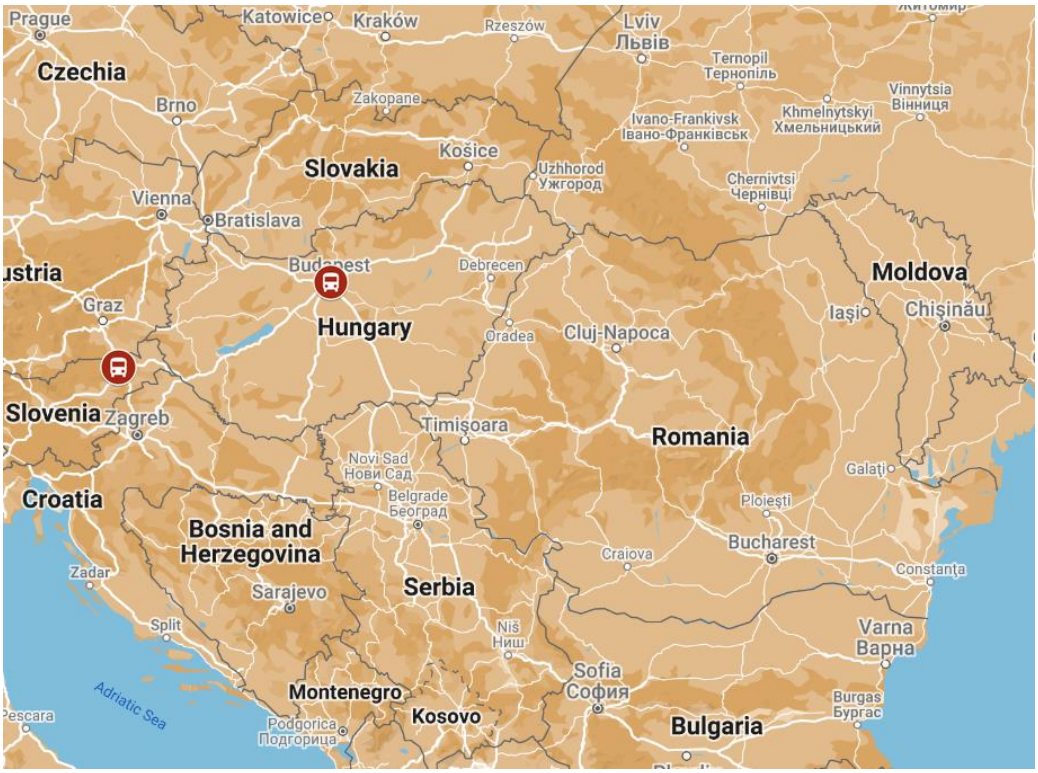


Figure 6: DANOVA testing sites – public transport systems

In both cases, it was impossible to assess the whole public transport network; thus only selected routes or stations were assessed. In Budapest, the route from the city centre (Deák Ferenc square) to Budapest airport was assessed. This route covers the main public transport stops of airport buses 100E and 200E). In Maribor, the main bus station was assessed, additionally two major bus stops were included in the assessment.

4. PROPOSED INTERVENTIONS

The main outcomes of the assessment of accessibility for blind and partially sighted passengers are recommendations on improvements. These recommendations are given in the form of interventions for each assessed site. For all assessed sites, 193 interventions were proposed. The great majority are referring to the built environment. In contrast, remaining proposals on interventions are almost equally distributed between access to information and rules of conduct (customer service standards, accessibility policies, disability awareness training) and interventions of general nature.

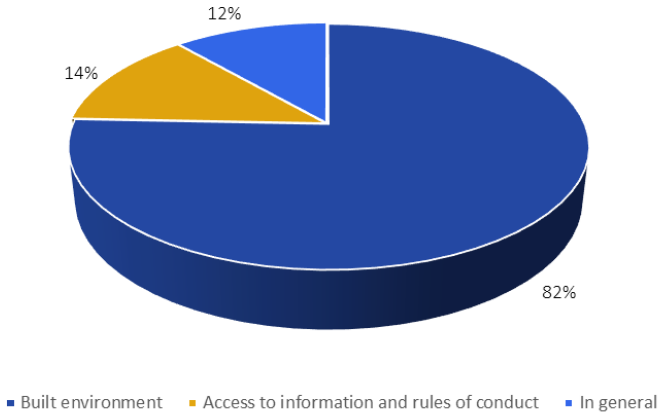


Figure 7: Proposed interventions by type

More detailed analysis shows that more than half of interventions are proposed in only three modules – inside circulation, approach and departure to/from site, and waiting areas.

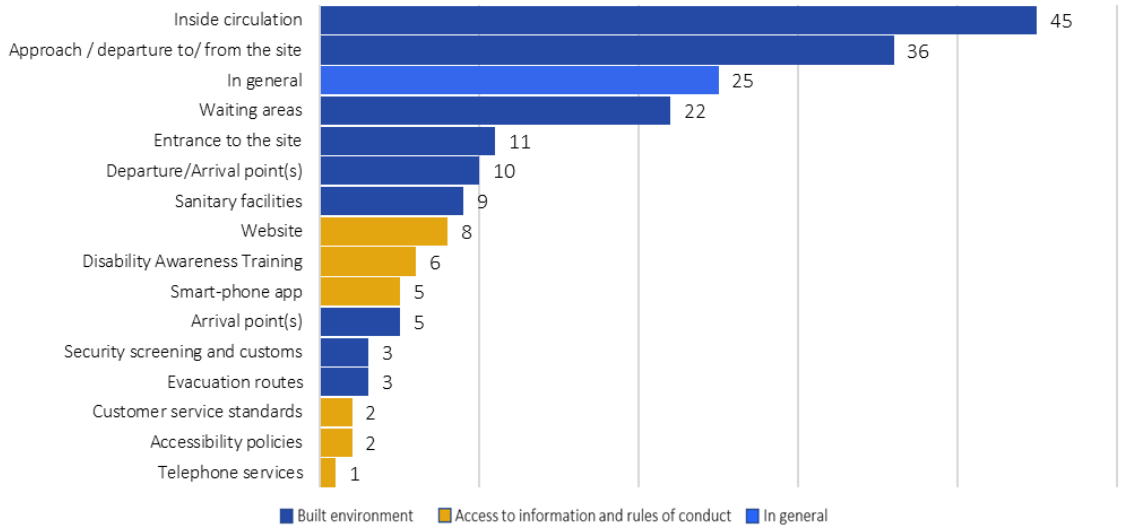


Figure 8: All interventions per DANOVA module[2]

[2] See chapter 2. DANOVA Assessment methodology

When it comes to the off-site assessment of access to information and rules of conduct, most interventions are proposed for websites, disability awareness training, and smartphone apps.

But not all proposed interventions are of the same importance. Within DANOVA, interventions were prioritized, and analysis of interventions per priority was done.

4.1. Proposed interventions by priority

All proposed interventions were prioritized[3] as follows:

- the highest priority was given to interventions proposed for elements rated as hazardous, inaccessible, and unsatisfactory.
- Medium priority was given to interventions proposed for elements rated as inaccessible and unsatisfactory.
- Low priority was given to interventions proposed for elements rated as unsatisfactory but acceptable.

Out of 193 proposed interventions, 48 are of highest priority, 68 are of medium priority, and 77 are of low priority, as shown in the figure below.

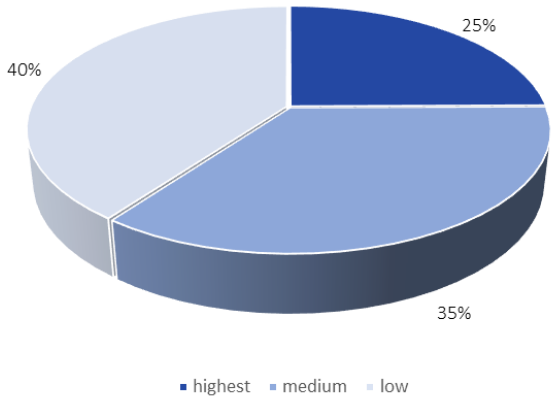


Figure 9: Proposed interventions by priority (in percentages)

A better understanding of proposed interventions can be gained through analysis of DANOVA modules in which these interventions were proposed. In the figure below, the prioritization of interventions per DANOVA module is shown.

[3] For prioritization of interventions see chapter 2.3 Prioritization of interventions

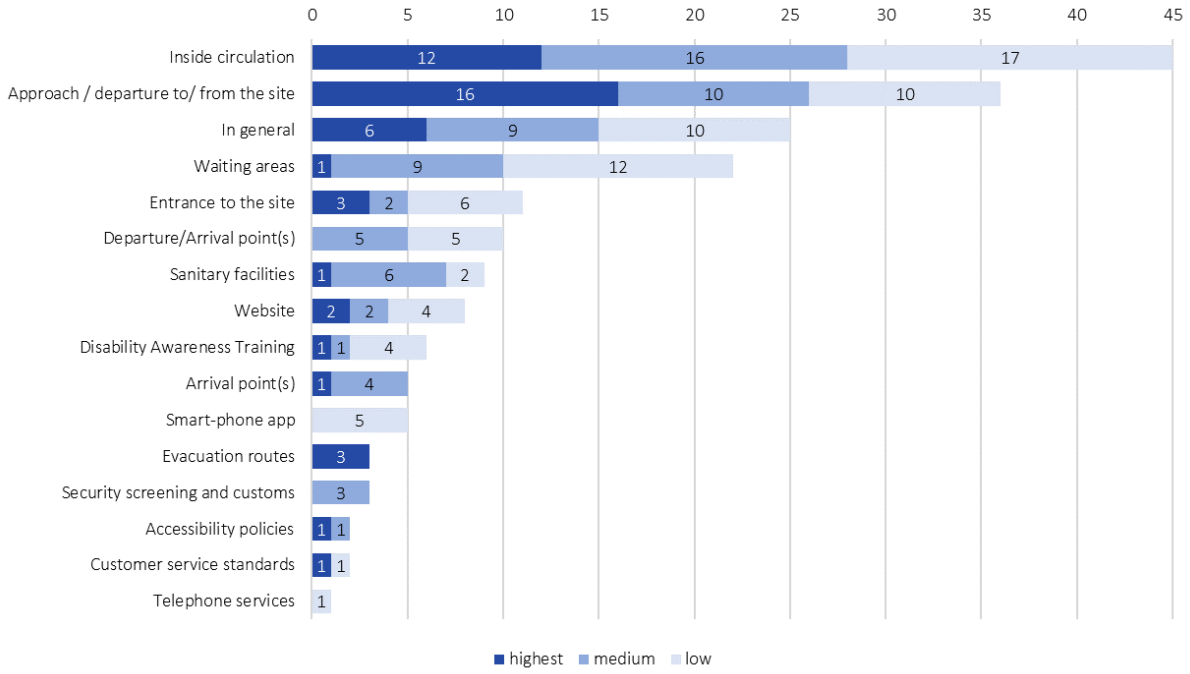


Figure 10: Prioritization of interventions per DANOVA module

More than half of interventions with the highest priority are proposed in only two modules – inside circulation and approach and departure to/from site. Special mention should be made on evacuation routes where three interventions are proposed, all of them of the highest priority.

To better understand proposed interventions, a detailed analysis of interventions per priority is given below.

HIGHEST PRIORITY INTERVENTIONS

The highest priority was given to interventions on elements rated as hazardous, inaccessible, and unsatisfactory. Majority, or 77 % ,of interventions are proposed for the built environment, 13 % to general interventions and 10 % are interventions on access to information and rules of conduct.

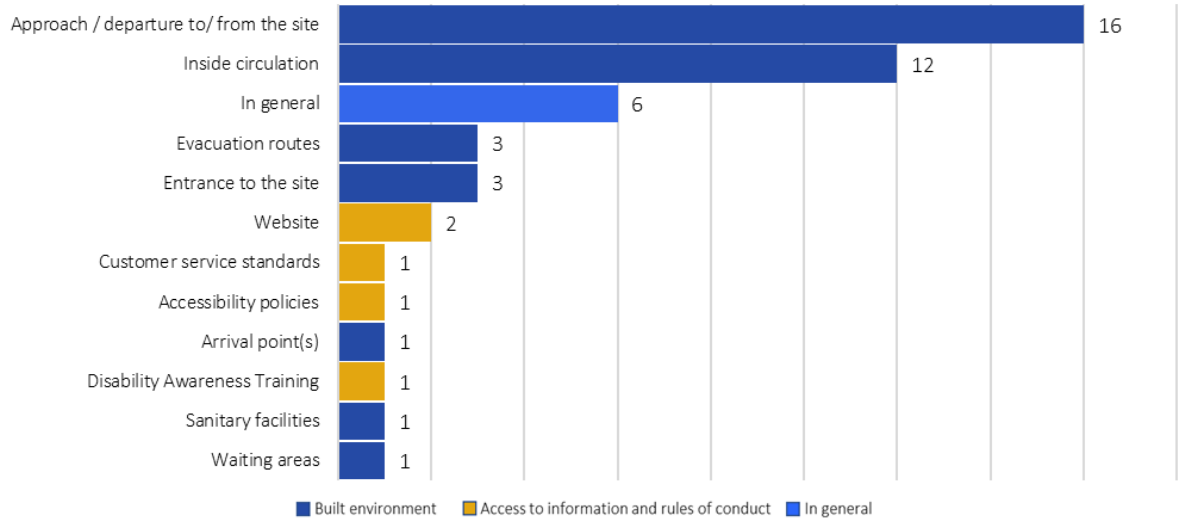


Figure 11: Highest priority interventions per module

The highest number of interventions are proposed on Approach/departure to/from the site, and these interventions suggest:

- the installation of tactile walking surface indicators (TWSIs),
- the placing of tactile orientation plan,
- interventions on inaccessible lifts (tactile or Braille lift controls, voice announcements), and
- cordoning-off of under-stair area.

Inside circulation interventions are proposed on:

- the installation of TWSIs,
- the placing tactile orientation plans and accessible maps.

Regarding evacuation routes, interventions are proposed on displaying of evacuation plan (where currently not displayed) installation of evacuation alarm and signalling. Other proposed interventions include again installation of TWSIs, improving inadequate illumination, and inaccessible vending machines.

General interventions refer to inappropriate wall contrasts, missing contrast marking of stairs, absence of acoustic information system, and proposals on directional signs in large print.

Concerning access to information and rules of conduct, proposed interventions include implementing disability awareness training, adopting accessibility policy and service standards, and interventions in web pages so that they are accessible to visually impaired persons.

MEDIUM PRIORITY INTERVENTIONS

The medium priority was given to interventions on elements rated as inaccessible and unsatisfactory. The great majority, or 81% of interventions, are proposed for the built environment, 13% are interventions in general, and the remaining 6% are access to information and rules of conduct.

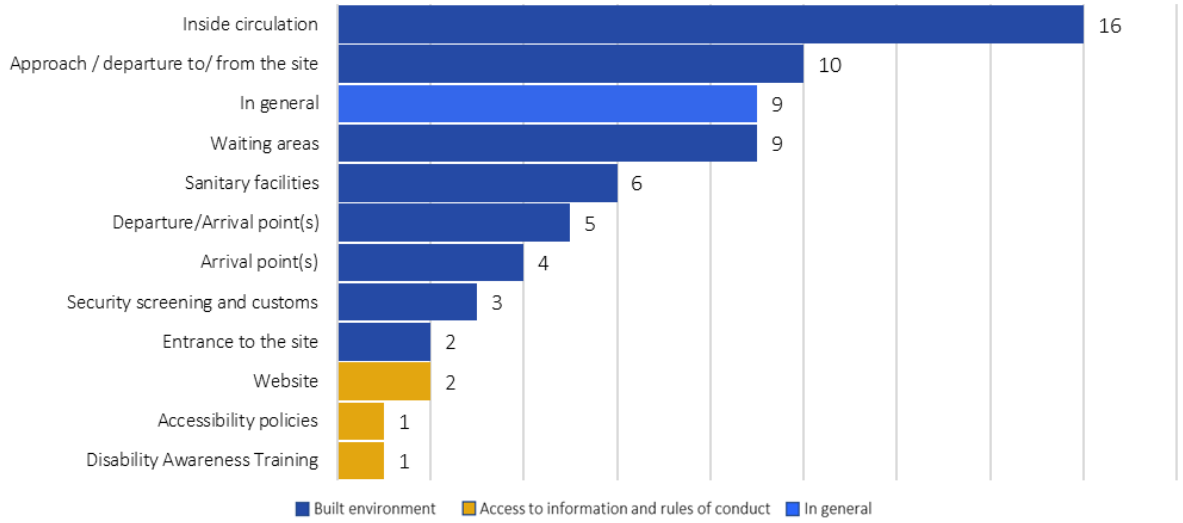


Figure 12: Medium priority interventions per module

The highest number of interventions are proposed on Inside circulation:

- the placing of contrasting strips on stairs and contrasting floor markings,
- the installation of TWSIs,
- installation of Braille signs and tactile markings,
- tactile plans with braille markings and audio guidance,
- appropriate placement and readability of signs and displays (placement too high, fonts too small),
- improved (adequate) illumination.

Interventions proposed for approach/departure to/from the site:

- the installation of tactile walking surface indicators (TWSIs),
- removal of barriers on paths and corridors,
- accessible parking (including signs) and taxi bay,
- contrasting marking of stairs.

For waiting areas, interventions include audible announcements and appropriate placement of displays and display fonts. General interventions refer to the installation of TWSIs, inappropriate markings and signage overall, and the absence of Braille signs.

Concerning access to information and rules of conduct, interventions are proposed on the inaccessibility of website and smart phone app for desktop screen readers, adoption of accessibility policy and customer standards (where currently non-existent), and disability awareness training for staff.

The remaining proposals include interventions on signage (accessible directional signage, Braille markings, and raised lettering, appropriate contrast of signs, directional guidance to sanitary facilities), proper indoor illumination and glare, indoor TWSIs, door markings, handrails, and luggage carousel marking (contrast strips and audible announcement).

LOW PRIORITY INTERVENTIONS

The low priority was given to interventions on elements rated as unsatiscaftory but accessible. Majority, or 68% of interventions are proposed for the built environment, 19% to access to information and rules of conduct, and the remaining 13% are interventions in general.

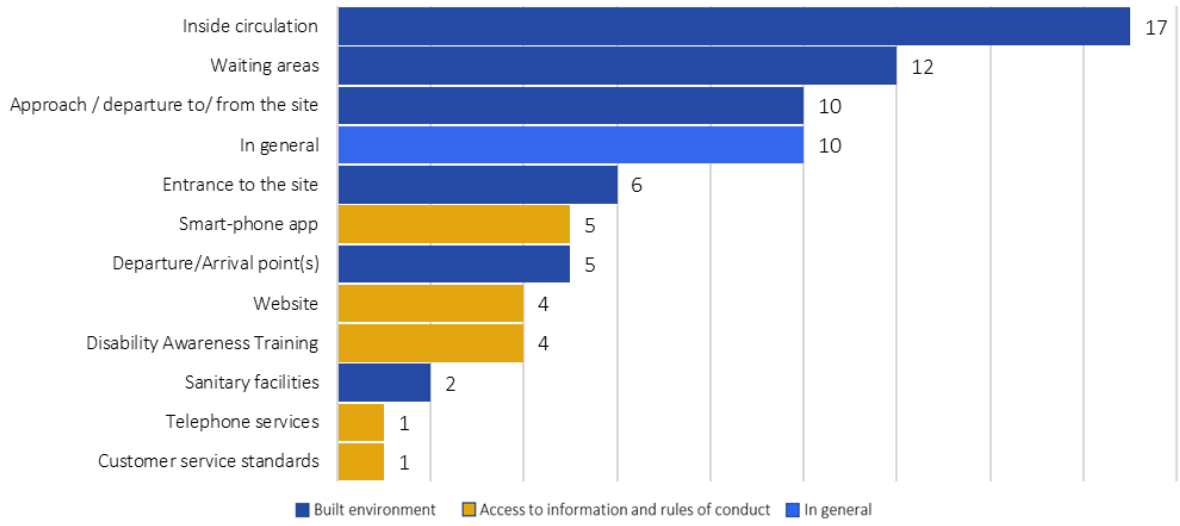


Figure 13: Low priority interventions per module

The highest number of interventions are proposed on inside circulation:

- directional and contrast signage, proper maintenance of illuminated signs,
- appropriate signage for information counters, sanitary facilities, and ticket counters,
- contrast markings of glass doors and walls,
- height of displays,
- braille and relief signage in lifts,
- slip-resistant floors.

Interventions proposed for waiting areas:

- proper signage (size, fonts) including Braille and relief signs,
- installation of additional displays, display placement to reduce glare,
- proper illumination.

Regarding approach and departure to/from site, interventions are proposed on (accessible) parking signs, proper illumination, slip-resistant ramp surface, proper maintenance of paths and corridors, and improvement/maintenance of existing TWSIs.

General interventions refer to inappropriate wall contrasts or colour matching, inappropriate font size, alternatives to vending machines with touch screens, tactile orientation plan, slip-resistant surfaces, and attention to obstacles on paths and corridors.

Many interventions were proposed on access to information and rules of conduct. Creation of smartphone apps is proposed for five (out of ten) terminals, compliance of existing websites with W3C levels A/AA or AAA needs to be improved, disability awareness trainings should be implemented or implemented more often, telephone services should provide more comprehensive information and be available during opening hours of the terminal, services for passengers with mobility impairment should be available.

Other proposed interventions again deal with signage (entrance, platforms, Braille and relief signs), contrasting marking of (glass) walls and door, maintenance of TWSIs and handrails, and availability of transportable ramp.

4.2. Proposed interventions by terminal type

Within DANOVA three different types of terminals were assessed – six airports, two seaports and two urban public transport systems. Proposed interventions are analysed by type of terminal to determine if proposed interventions differ between different types of terminals.

AIRPORTS

The air transport sector is strictly regulated, and airports need to conform to industry standards, including safety and security. However, this does not automatically mean that accessibility of airports to visually impaired persons is ensured. The DANOVA audits carried out at airports show that each airport has its issues to be solved. Analysis of proposed interventions show that majority of interventions, or 63, are proposed for built environment, 18 are interventions of general nature, and 8 are proposals on access to information and rules of conduct (percentages shown in the figure below).

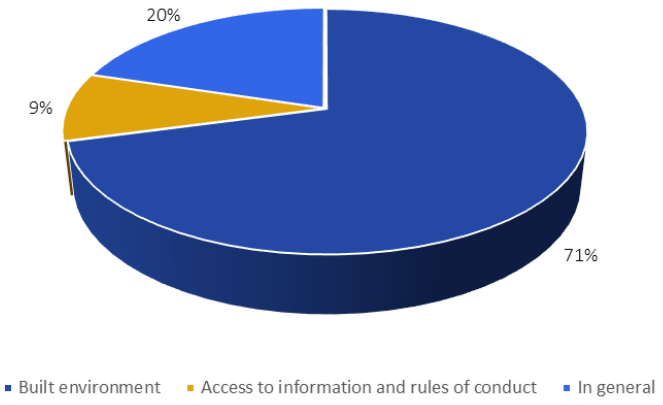


Figure 14: Airports - proposed interventions by type

Looking at the interventions by priority, the picture is quite different. Only a quarter of proposed interventions are of the highest importance, while medium and low priority interventions were proposed in similar shares.

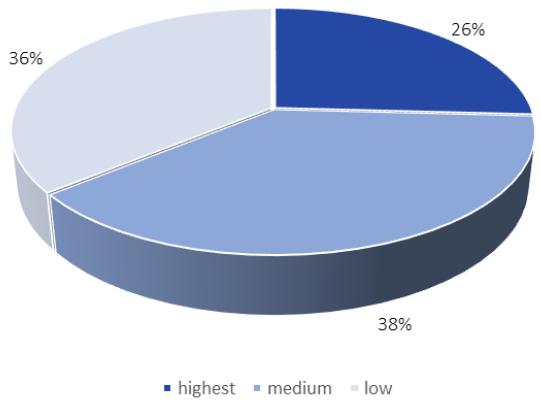


Figure 15: Airports - proposed interventions by priority (in %)

More interesting is distribution of proposed interventions per DANOVA module. Large majority of proposed interventions of the highest priority are proposed on inside circulation and approach and departure to/from site.

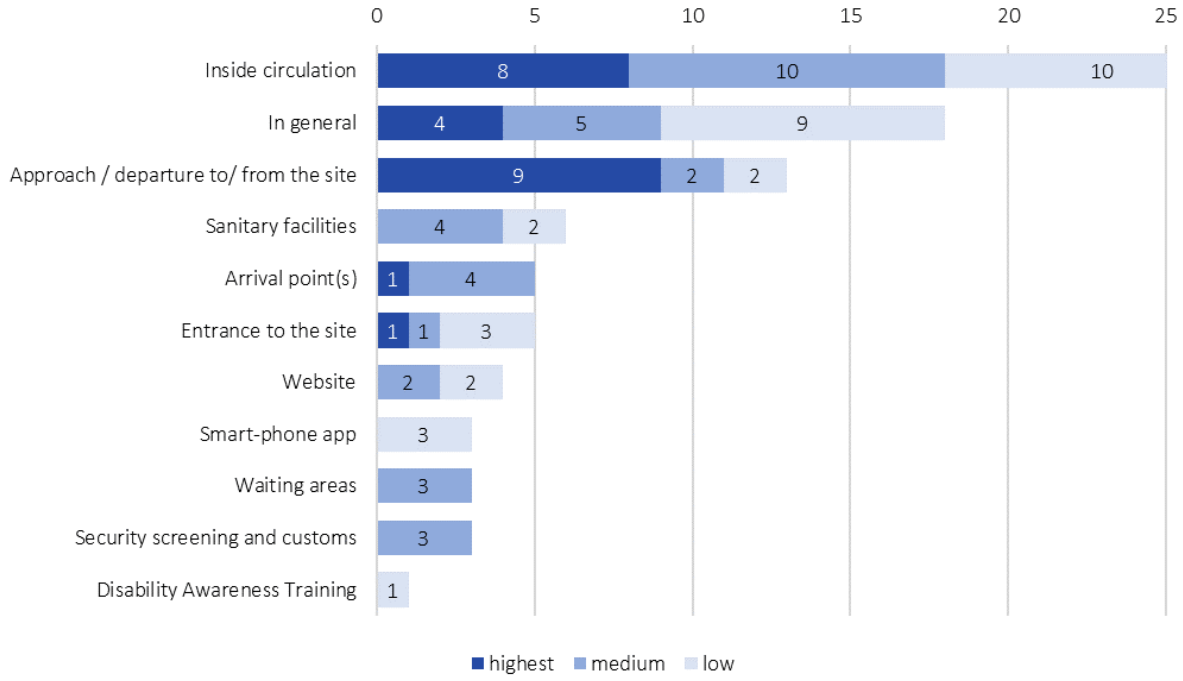


Figure 16: Airports' prioritization of interventions per DANOVA module

Highest priority interventions are proposed on:

- the installation of TWSIs (52 %), outside terminal 6 instances and inside terminal 6 instances,
- the placing of tactile orientation plan (22 %), outside terminal 2 instances and inside terminal 3 instances,
- contrast marking of stairs 2 instances,
- cordoning-off of under-stair area 1 instance,
- three general recommendations (13 %) – 2 on (glass) wall contrast, and 1 on revolving doors.

Medium priority interventions are much more diverse and encompass the following:

- proper signs for toilets or sanitary facilities (large print, Braille and raised lettering signs on the doors),
- indoor guidance - TWSIs to toilets, coloured strip markings leading to toilets, security screening, information area, and information counter,
- placement of tactile orientation plans and audio guidance,
- luggage carousels - marking with contrast strips, proper placement of displays and appropriate font size on displays, audio announcements,
- contrast marking of stairs,
- tactile and audio signs for escalators, elevators,
- TWSIs and audio announcements at departure gates,
- contrast glass doors markings,
- signs for disability parking,
- audio guidance for passengers,
- contrast markings/guidance at security screening,
- improvement of website and app so that they are compatible with the two most used desktop screen readers.

Proposed interventions of low priority are also rather diverse and include:

- contrasting directional guidance throughout airport,
- proper size and illumination of signs,
- (improved) contrast marking of glass doors (and/or door frames),
- contrast markings of glass walls, contrast marking of walls in general,
- Braille and tactile marking of toilets and proper placement of accessible toilet signs,
- improving contrast in the toilets,
- audio announcements, raised lettering and/or Braille signs in lifts
- contrast signage in check-in counters, display height in check-in area
- large font size to be used for information displays,
- appropriate colour matching and contrast on signs (colour, contrast, glare)
- appropriate positioning of temporal barriers set for security/safety purposes,
- ensuring alternatives for touchscreen operated machines,
- ensuring appropriate safety measures for slippery surfaces during cleaning process,
- ensuring proper placement of parking signs,

- placement of visual guidance to and from parking machines,
- improving website accessibility for visually impaired persons,
- creation of smart-phone app,
- creation of comprehensive digital guide for visually impaired persons,
- hands-on/practical disability awareness training.

Quite many of the before listed interventions propose installation of TWSIs at airports. While installations in the outdoor areas leading to entrances as well as to information counters is absolutely needed, careful considerations should be given to installation of TWSIs inside airport terminals notably in large airports that tend to be rather complex. Especially considering Regulation (EC) No 1107/2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air. Under this directive airports are required to provide assistance to passengers with disabilities from the point of arrival at the airport to the point of departure of the airport, and during transit. As provision of this service is obligatory, persons with visual impairments will always be provided with assistance if request for assistance was made 48 hours prior to travel.

When discussing audio announcements at the airports or at the gates, one has to consider that some airports are opting to be silent airport meaning that they aim to reduce noise pollution at the airport. This also means that there are no audio boarding calls or other audio announcements. In this case airport should consider making announcements via smartphone app to those passengers that can benefit from it.

While installation of indoor TWSIs should be carefully considered and possibly dismissed, this should not be the case for other proposed interventions. It seems that proper guidance (coloured/contrast strips), signage (contrast, size, colours), marking of stairs and escalators, Braille and tactile markings, contrast marking of glass doors and walls and displays (placement, font size) are some of the most common interventions required at the airports. Additionally, websites and smartphone apps are not always accessible or adapted for users with visual impairments.

SEAPORTS

The DANOVA audits were carried out at two seaports, where one is dedicated to cruise passengers while the other one provides services to ferries and cruise ships. Analysis of proposed interventions shows that interventions are equally distributed between the built environment, access to information and rules of conduct, and interventions of general nature, as shown in the figure below.

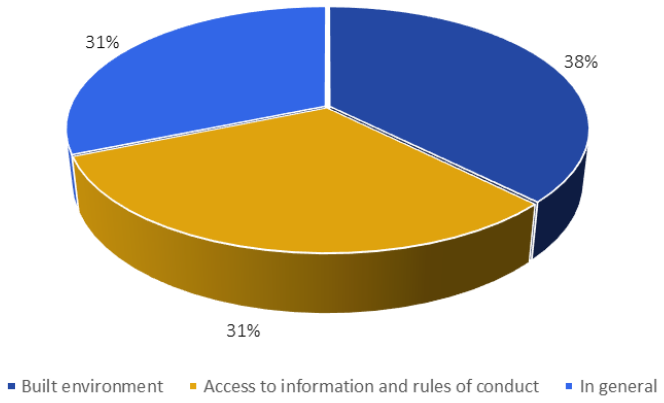


Figure 17: Seaports - proposed interventions by type

Examining the interventions by priority, it can be noticed that half of the proposed priorities are of medium importance, one-third is of medium priority, and one-fifth of proposed interventions are of the highest priority.

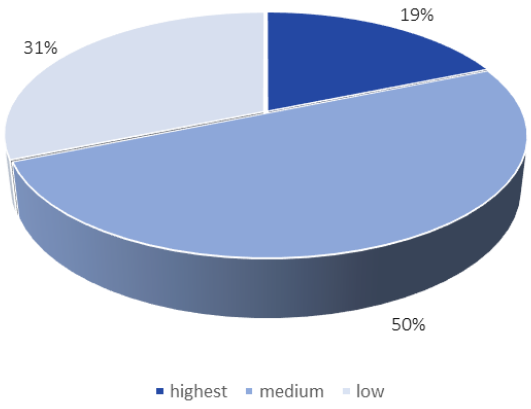


Figure 18: Seaports - proposed interventions by priority (in %)

Detailed distribution of proposed interventions per DANOVA module shows that the largest number of recommendations is of general nature and on arrival and departure to/from the terminal. The large majority of proposed interventions of the highest priority are proposed on inside circulation and approach and departure to/from site.

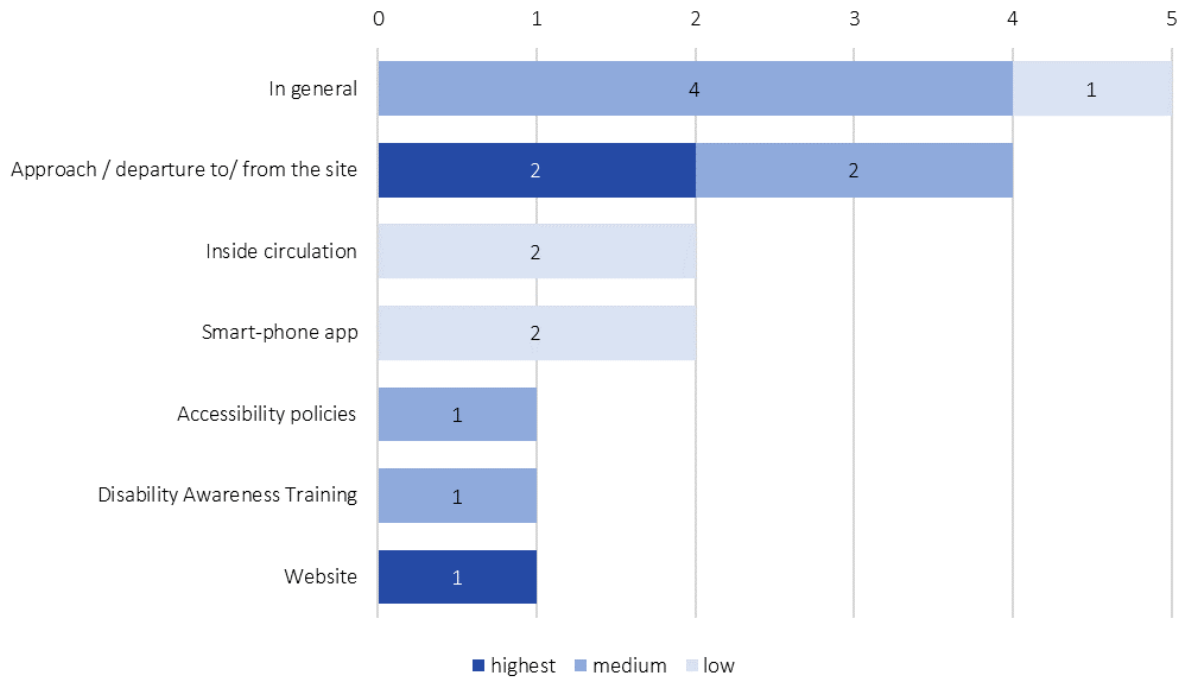


Figure 19: Seaports' prioritization of interventions per DANOVA module

Highest priority interventions are proposed on:

- the installation of TWSIs outside terminal in both seaports (including TVSIs to public bus stop),
- website accessibility to visually impaired persons.

Medium priority interventions are proposed as follows:

- two instances of a proposal for installation of TWSIs inside the terminal,
- two proposals on the unification of signs throughout terminal and placement of contrasting directional signage including contrast strips,
- removal of barriers from the path outside the terminal,
- adoption of accessibility policy,
- implementation of disability awareness training.

Proposed interventions of low priority include:

- proper signs for toilets (large print, Braille and raised lettering signs on the doors),
- creation of comprehensive digital guide for visually impaired persons,
- creation and placement of tactile orientation plans.

For the two audited ports, the proposed interventions are the same regarding the installation of TWSIs outside and inside the terminal, unification of signage, placement of contrasting directional signage, creation of a tactile and digital plan for terminals. Additionally, disability awareness training was proposed for one seaport.

PUBLIC TRANSPORT SYSTEMS - BUS

As mentioned previously, for urban public transport, selected bus routes (Budapest) or stations (Maribor) were assessed. Analysis of proposed interventions show that a large majority of interventions, or 85%, are proposed for the built environment, 13% are interventions on access to information and rules of conduct, and only 2% are proposals of general nature, as shown in the figure below.

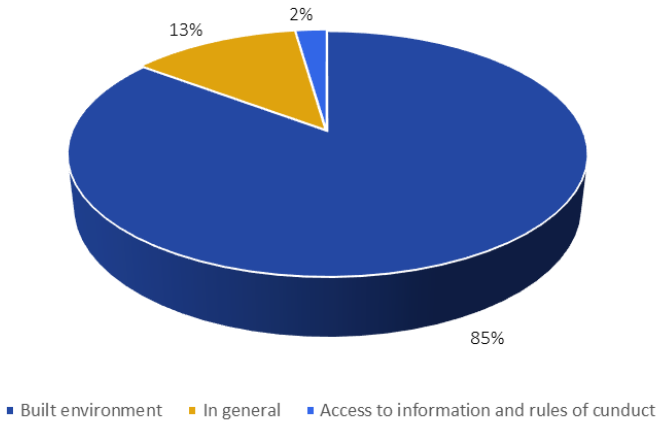


Figure 20: Public transport systems - proposed interventions by type

The distribution of interventions by priority is similar to airports, with a quarter of proposed interventions of the highest importance. On the other hand, interventions with low priority have a higher share than those for the airports, so 45% of all proposed interventions are of low priority. The remaining 30% are interventions of medium priority.

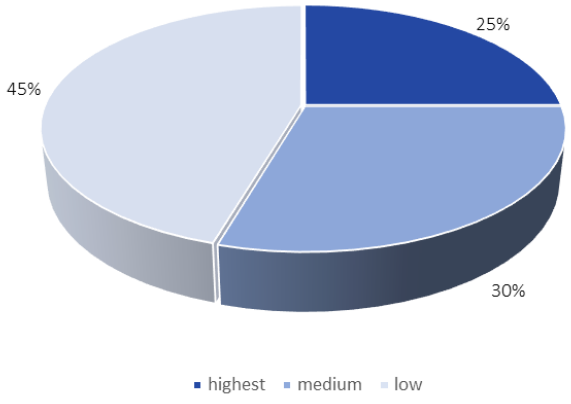


Figure 21: Public transport systems - proposed interventions by priority (in %)

Proposed interventions are distributed to quite a few DANOVA modules, most predominantly on approach and departure to/from site, and for waiting areas, quite a few interventions are also proposed for inside circulation.

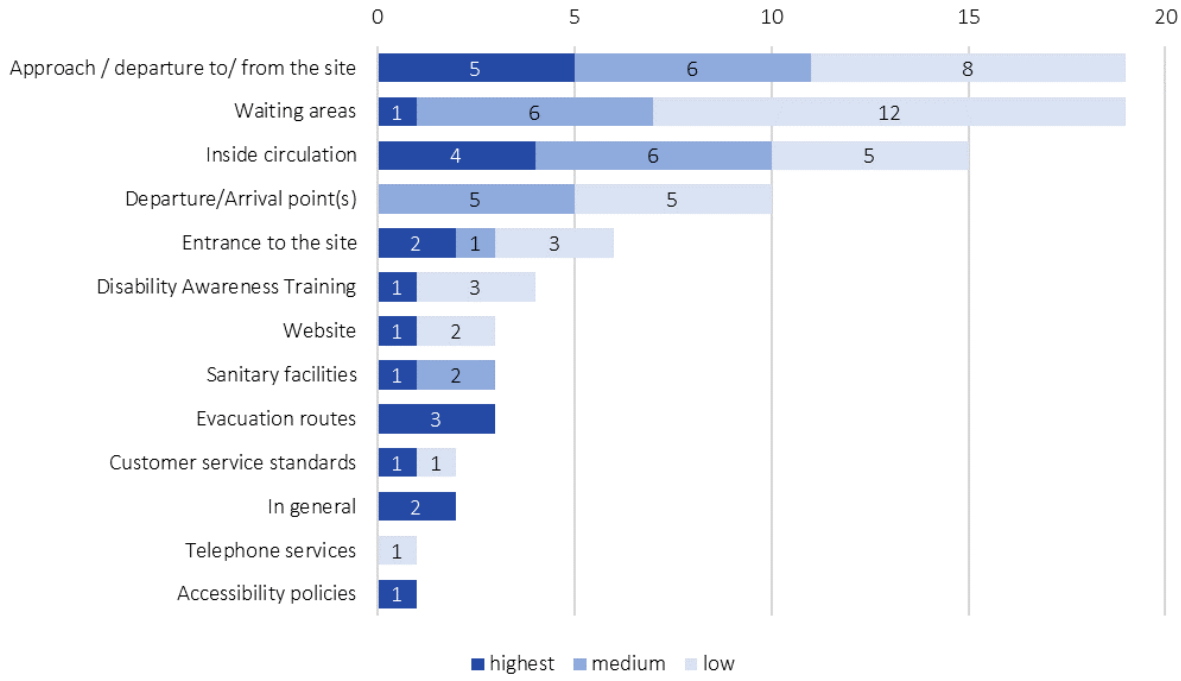


Figure 22: Public transport systems prioritization of interventions per DANOVA module

Highest priority interventions are proposed on:

- evacuation routes (installation of evacuation alarm and signalling, display of evacuation plan),
- the installation of TWSIs, outside terminals 3 instances and inside terminal 1 instance,
- installation of acoustic signals for traffic lights,
- installation of a lift to the under passage,
- erection of large freestanding indoor bus timetable display,
- installation of intercom system at the information desk,
- positioning of contrasting strips on stairs,
- improvement of sanitary facilities (installation of emergency alarm),
- ensuring alternatives for touch-screen operated machines,
- proper entrance illumination,
- gradual replacement of directional signs and placement of the large print, Braille and relief signs in line with the new graphic design,
- investment in the acoustic information system and an indoor hearing loop
- adoption of accessibility policy and customer service standards,
- regular implementation of disability awareness training with an emphasis on visual impairments,
- improving website accessibility for visually impaired persons.

Medium priority interventions comprise of the following:

- removal of barriers on outside paths and inside corridors,
- accessible taxi parking bay,
- directional signs to the terminal,
- installation of TWSIs on approach to terminal and inside terminal,
- positioning of contrasting strips on stairs and sidewalk edges,
- proper indoor illumination,
- Braille and relief signs inside the terminal, departure/arrival points, sanitary facilities,
- provision of passenger assistance service during operational hours of the terminal,
- proper height of display placement, suitable font size on displays,
- audio announcements at departure points,
- bus schedules to be displayed in an accessible format (appropriate font size).

Proposed interventions of low priority are also plentiful and include:

- proper illumination,
- signs with stop names, a larger size of informational signs, Braille and relief signs,
- elimination of display glare and poor visibility in bright daylight,
- consideration about availability of acoustic information system on all stops,
- placement of additional journey planner displays,
- installation of sign for accessible parking,
- ensuring proper maintenance of paths and corridors (unlevel floors),
- extension of TWSIs path leading to the terminal,

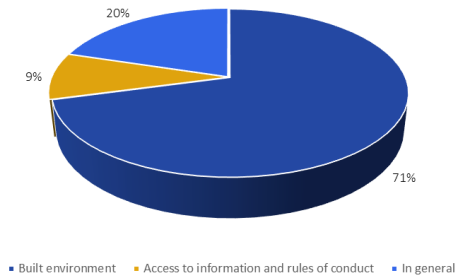
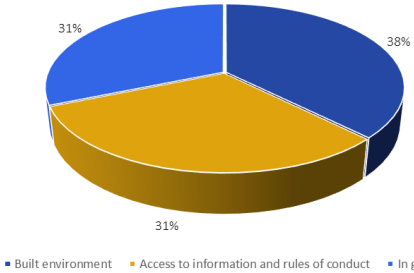
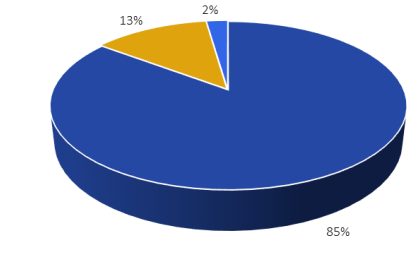
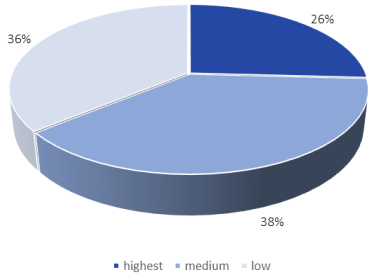
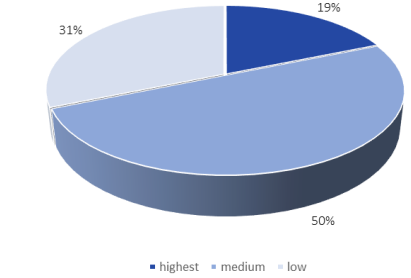
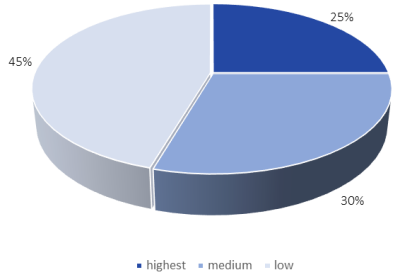
- introduction of shared space instead of the bicycle lane,
- replacement of slippery surfaces,
- (improved) contrast marking of glass doors (and/or door frames),
- contrasting directional guidance to the information desk and throughout the terminal,
- refurbishment of handrails on stairs,
- regular staff training in disability awareness, specific training for different types of disabilities, practical training on visual impairments,
- ensuring accessibility of webpage to visually impaired persons (website compliance with W3C level A/AA or AAA level),
- website to include information about services for persons with mobility impairments and terminal map in an accessible format,
- telephone information on bus services and timetables to include information on inter-city and international travel.

At audited bus stations and stops, plenty of opportunities for improvements were identified. A fair deal of interventions is proposed on bus stations/stops infrastructure. These interventions do require proper planning and adequate funding sources, while other proposed interventions require fewer procedures and efforts. Some issues could probably be avoided if accessibility policies and awareness training were in place and implemented regularly. Awareness training should make employees more sensitive to these issues. Some minor but essential problems might not occur (e.g. fonts too small on bus schedules, obstacles on paths and corridors) or might be solved faster (e.g. maintenance issues, missing signs). Unlike seaports and airports, bus services are namely used daily. Thus, their full accessibility should be at the forefront for ensuring unhindered mobility of visually impaired persons.

COMPARISON OF INTERVENTIONS BETWEEN TRANSPORT MODES

Comparison of proposed interventions between different types of terminals audited within DANOVA project is shown in the table below.

Table 4: Proposed interventions by type and priority per terminal type

AIRPORTS	SEAPORTS	PUBLIC TRANSPORT SYSTEMS – BUS
		
		

Proposed interventions differ among transport terminals. In airports, close to 3/4 of interventions are proposed for the built environment, and the percentage is even higher for public transport systems where interventions for the built environment represent 85% of all interventions. In seaports, on the other hand, proposed interventions on the built environment are only 38% of all proposed interventions. More interestingly, every third intervention is proposed for seaports on access to information and rules of conduct. In contrast, for airports and bus stations this is proposed only one out of ten times. Also, general recommendations on terminals are more often proposed for seaports and airports than for bus stations. It could be concluded that there are more issues in airports and seaports that require a systemic approach.

Regarding priorities of proposed interventions, the share of highest priority interventions is similar for terminal types. More interesting is direct comparison of highest priority interventions shown below.

Table 5: highest priority interventions per terminal type

AIRPORTS	SEAPORTS	PUBLIC TRANSPORT SYSTEMS – BUS
Highest priority interventions - the installation of TWSIs, outside and inside terminals, - the placing of tactile orientation plan, - contrast marking of stairs, - cordoning-off of under-stair area, - general recommendations – (glass) wall contrast and revolving doors.	Highest priority interventions - the installation of TWSIs outside terminal in both seaports (including TVSIs to public bus stop), - website accessibility to visually impaired persons.	Highest priority interventions - evacuation routes (installation of evacuation alarm and signalling, evacuation plan), - the installation of TWSIs, outside and inside terminals, - installation of acoustic signals for traffic lights, - installation of a lift to the under passage, - erection of large freestanding indoor bus timetable display, - intercom system at the information desk, - positioning of contrasting strips on stairs, - improvement of sanitary facilities (installation of emergency alarm), - ensuring alternatives for touchscreen operated machines, - proper entrance illumination, - gradual replacement of directional signs and placement of the large print, Braille and relief signs in line with the new graphic design, - investment in the acoustic information system and an indoor hearing loop - adoption of accessibility policy and customer service standards, - regular implementation of disability awareness training with an emphasis on visual impairments, - improving website accessibility for visually impaired persons.

For airports and seaports, proposals on interventions are somewhat similar and can be summarized in several points – installation of TWSIs, tactile orientation plans, websites accessibility, under stairs areas and contrasts. But for bus stations, the assortment of proposals is much broader, ranging from TWSIs, evacuation routes, lifts, timetable displays, signs and displays, guidance throughout terminals, accessibility policies, staff training, websites and many more. The very diverse assortment of proposed interventions could to some extent be explained by a very detailed audit done in Maribor.

Based on interventions proposed for six audited airports, it might be safe to state that aviation legislation and international industry standards play a role in the accessibility of airports to persons with mobility impairments. The same cannot be stated for seaports and urban public transport systems for there is not enough data – only two seaports and segments of two bus systems were analysed. It must be pointed out that results described in this report reflect the situation in analysed terminals only and cannot be understood as representative for the whole Danube area. Nevertheless, a comparison of results provides an interesting insight into the accessibility of transport terminals to blind and partially sighted passengers.

5. ASSESSMENT PROCESS

The assessment process of all audited sites was carried out by audit teams specifically set up to implement the DANOVA methodology. Within this chapter, the experiences of audit teams and their recommendations for followers are summarized.

5.1. Audit teams

Within DANOVA, audit teams were set up by DANOVA partners:

- Dubrovnik airport: assessment of five sites – airports Dubrovnik, Sarajevo, Podgorica, and seaports Dubrovnik and Kotor,
- Budapest airport: assessment of airport Budapest,
- Zilina airport: assessment of airport Zilina,
- Centre for Budapest Transport: assessment Budapest public transport (selected stops/station),
- Municipality of Maribor: assessment of Maribor main bus station:
- Technical University of Moldova: assessment of Chisinau airport.

The set-up process and selection of audit team members started in the spring of 2021, right after the Assessment methodology was finalized.

Figure 23: On-site assessment at Dubrovnik Airport

Teams were composed of representatives of terminals, experts on visual impairments and accessibility, technical experts on web accessibility, representatives of blind and partially sighted persons, partners and other external members if needed. Audit teams were of different sizes, comprised of 5 to 8 members.

The only exception was the audit team assessing routes of the Budapest public transport system. This team was composed of only three members, all employees of DANOVA partner BKK. All three members were already experienced in this type of assessment. In autumn of 2020, they were part of the team reviewing public stops of the Airport shuttle bus with the members of the National Association of the

Hungarian Blind and Visually Impaired. Since then, regular meetings between BKK and the Hungarian national association have occurred, and BKK's DANOVA audit team members were able to use their experiences and to discuss findings with representatives of blind and partially sighted persons.

Figure 24: Assessment of accessibility of Port of Kotor

In April of 2021, two online trainings for audit team members were carried out where DANOVA assessment methodology was explained. Part of the training was the "Questions & Answers" session, where all doubts and uncertainties were clarified. Additional information was provided in DANOVA booklet "About accessibility for the visually impaired".

Figure 25: On site assessment at Sarajevo Airport

After training, teams started with the organisation of their work. For some sites, the process was relatively quick, while other partners had to implement public procurement procedures to engage external experts on the mobility of visually impaired persons. Without public procurement, the assessment process after the training was completed in two months.

Figure 26: DANOVA audit team at Chisinau airport

For organizational reasons, teams used different approaches. Some teams met online several times to discuss the approach and test plan for the site being assessed, while other teams opted for a combination of online and in-person meetings. Regardless, all teams began their assessment with an initial familiarization with the site and preparation of assessment tables. Then interviews with managers and other staff took place, followed by on-site visits. The on-site part of the audit was typically completed in one or two days.

To ensure consistency in summarizing results, a report template was created and used by all audit teams. The report typically took about a month to prepare and complete, depending on the complexity of the site. These reports are primarily intended for use by terminal managers, but also allow for comparison of results between audited terminals.

All in all, audit teams did not face any major problems- Still some recommendations based on their experiences should be given to potential followers.

5.2. Experiences and recommendations

The DANOVA assessment methodology was tested for the first time, and experiences from audit teams are invaluable. Despite the fact that no there were no major problems, all teams have agreed on the following recommendations for followers:

- audit team ought to be composed of experts in different fields,
- team members have to be familiar with the methodology and be properly trained on its application,
- the team needs to meet several times to discuss the approach to assessment,

- tasks must be delegated to team members, and division of tasks have to be clear,
- familiarization with the audited site is crucial,
- assessment grid tables must be prepared before an on-site visit (this requires detailed knowledge of the site).

One team has found discussions with staff (passenger coordinators, customer service staff) working at the audited site very helpful. They were able to obtain crucial information on problem areas of the terminal and about what kind of support is usually required by a visually impaired passenger at the audited site.

The team auditing Budapest airport, the largest site to be audited, found the place to be quite complex. They managed the complexity of the site by preliminary site visits and applying knowledge on mobility issues of the visually impaired as well as requirements of DANOVA methodology. In this way, they managed to adapt the assessment grid tables, marking blocks that need to be applied at different parts of the building. With the preliminary site visit, the team found numerous similarities in the terminal and was able to standardize quite a few building blocks, making assessment much smoother and faster.

The audit of Sarajevo Airport had its own problems, as part of the entrance to the terminal building was under reconstruction and the area could not be audited due to ongoing construction. Instead of reviewing the entrance, the team contacted the architect, and all designs and plans were discussed in detail. Some changes were recommended to the designs to make the airport more accessible for blind and partially sighted passengers.

An interesting experience was made about the impact of the heterogeneity of the audit team. Namely, one team had difficulty in deciding on a score, as some members were stricter while others were more lenient. It was sometimes difficult to decide whether the element should be rated "Inaccessible and Unsatisfactory" or "Unsatisfactory but Acceptable". Nevertheless, consensus was reached in all of these cases. The final grading took into account the needs of visually impaired people, the capabilities of the environment and the needs of other passengers.

We can summarize that for a successful assessment the team needs to be:

- competent in the application of the assessment methodology,
- familiar with the audited site,

and be composed of representatives of blind and partially sighted persons in order to achieve relevant results. International debate on the audit process to gain a better understanding of the assessment criteria interpretation and the expectations of the solutions to be provided to blind and partially sighted persons for independent travel should take place during the implementation of DANOVA.

In addition, the DANOVA methodology should be modified with respect to ratings. More detailed descriptions and definitions need to be provided for each rank/grade. This would lead to more consistent rankings and better comparability of results.

6. CONCLUSIONS

Navigating crowded or noisy transit terminals can be a difficult and stressful task for blind and partially sighted passengers, especially if they are unfamiliar with their surroundings. For the independent mobility of visually impaired people, transport terminals should be designed and equipped to support and enable independent mobility. This includes access to travel information, passenger services, and an appropriate built environment free of barriers and with adequate guidance and lighting (to name a few). The first step in improving accessibility of transport terminals for visually impaired passengers is an analysis of the current situation, followed by a plan of measures to improve accessibility.

Within DANOVA, a methodology was developed to evaluate the accessibility of transport terminals for blind and visually impaired passengers. This methodology has been used to evaluate terminals at nine DANOVA pilot sites and one additional non pilot site (Chisinau), including six airports, two seaports, and selected stations of two urban bus transport systems. Proposed interventions and their prioritization are an important part of the assessment, with the most urgent interventions ranked as the highest priority. For all terminals reviewed by DANOVA, 177 interventions were proposed. Most of them are interventions in the built environment. This is especially true for airports and bus transport systems, while for seaports, interventions are proposed for the built environment to the same extent as for access to information and rules of conduct. When it comes to prioritization of measures, up to 25% are the highest priority interventions. Interestingly, only four interventions were proposed on accessibility policies and service standards in relation to the companies operating the terminals in question. Adopting and implementing accessibility policies and staff training could increase staff awareness of these issues and lead to better space management and service delivery, which would ultimately improve the accessibility of transport terminals.

The findings of this report indicate that further efforts need to be made to improve accessibility for blind and partially sighted passengers. The DANOVA methodology could be used to evaluate many more transport terminals in the Danube region as well as in Europe. In this way we could gain a good insight into the current accessibility of transport terminals for visually impaired passengers and plan and implement appropriate measures. But we should not stop there. The DANOVA assessment methodology could be extended to include accessibility assessment for all passengers with mobility impairments. This would be a further step towards fully accessible transport.

7. APPENDIXES

7.1. Prioritization of interventions Dubrovnik Airport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Outdoors	Approach to / departure from the site	Parking – car (drop-off in front of the entrance to the site) Parking – taxi Bus stop (shuttle bus) Paths and corridors Doors (entrance)	There are no **tactile walking surface indicators** (TWSIs) in the areas where they are crucial. Without TWSIs, blind and partially sighted passengers are not able to cross the road (the traffic lane for the drop-off), to find the entrance to or the exit from the building. Moreover, it puts them at risk of getting injured by the vehicles that use this lane because there is no warning TWSI that is alerting them where is the border between the sidewalk and the road. In front of the main entrance, there are supporting posts evenly positioned at the front of the building. Because of the lack of TWSIs, they can pose a threat to safe navigating. Directional TWSIs are used to mark the safe passage and help visually impaired passengers to avoid all the obstacles like trash cans, support posts, baggage carts etc. The persons using the white cane will follow the relief surface of the TWSIs whereas the partially sighted will rely on the contrast between the TWSIs and the floor for safe navigating. The implementation of the TWSIs in this area is a highest priority intervention.
2.	Outdoors	Approach to / departure from the site	Entrance Bus stop	**Tactile orientation plan (1)** providing information about the important elements of the approach and departure from the site should be provided at the bus station and/or in front of the entrance of the building. Important elements include the location of the bus station, taxi and car drop-off parking, pedestrian crosSigns, entrance and exits to the site for both departures and arrivals and TWSIs location. The information on the tactile plan is provided in tactile graphics, raised letters, large print and Braille.
3.	Ground floor – departures – Indoors	Inside circulation	counters Doors Lifts Toilets Stairs	There are **TWSIs** leading to the counter on the ground floor, but they are improperly placed, which can lead to injury. This should be corrected. There are no other **TWSIs** on the ground floor. The TWSIs are needed to provide the direction from the entrance to the info desk where visually impaired passengers can ask for PRM staff, the TWSIs to the toilets (men, women and persons with disabilities) so they can be independent, to the lifts and to the stairs for the departure points, to the PRM waiting area. Warning TWSIs marking the width

				of the entrance should be placed, as well as the directional TWSIs leading to the door (outdoors) and leading from the door to the information desk (indoors).
4.	Ground floor – departures – Indoors	Entrance to the site Inside circulation Waiting areas	Doors counters	**Tactile orientation plan (2)** providing the layout of the ground floor and important elements should be placed indoors at the entrance or in the PRM corner. Important elements include the location of the entrance, information desk, toilets, check-in counters, stairs/escalators/elevators, waiting areas, directions for the departure gates, TWSIs location. The information on the tactile plan is provided in tactile graphics, raised letters, large print and Braille.
5.	The site in general	Entrance to / exit from the site Inside circulation Departure points Arrival points	Doors and walls	The majority of the walls and the doors inside the site are made of glass with insufficient visual markings. Partially sighted persons could mistake the walls for the doors and vice versa, and get injured. Both ceiling and the floors are of the same colour. The red or other distinctive **colour tape** should be placed at the eye level (approximately 1.50 m from the ground) and cover the entire width of the door. There is also a lot of glare because of the glass surfaces and ceramic tiles of the floors in some parts of the site (e.g. the entrance, the baggage claim area…)
6.	The site in general	Entrance to / exit from the site Inside circulation Departure points Arrival points	Stairs	The edge of each step should be marked with **contrast stripes** to make them more visible to partially sighted passengers. The warning TWSIs should be placed in front and at the end of the stairs set, along with directional TWSIs in the middle to provide the direction. All the stairs that passengers use should be marked with the more prominent visual contrast at the edge.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Digital accessibility	Pre- and post-travel access to information	Web-site and smartphone-app	The **web-site** and **the app** were tested with one of the two most commonly used desktop screen readers in the Google Chrome browser and found to be highly inaccessible. It was also tested by an expert in the field of accessibility for the visually impaired. The general mark is that it is inaccessible and that the interventions should be made. Detailed explanation is given in the assessment grid.
2.	The site in general	Sanitary facilities	Doors Signs Toilets	The signs at the toilets are insufficiently noticeable. The toilets should have the **signs in Braille**, raised lettering and large print placed directly on the door indicating their type (Men, Women, People with disabilities). High contrast between the door, the background of the sign and the figures and text is important.
3.	The site in general	Sanitary facilities	Paths and corridors Signs Doors toilets	The location of the sanitary facilities should be marked with the **TWSIs** that are connecting them to the logical point (ex. information counter, PRM waiting areas).
4.	Information desk – ground floor	Entrance Inside circulation	Counters signs	There is not sufficient visual guidance available to detect and identify the counter easily. There should be a **sign** saying “information desk” which should be placed above the counter in large font size and high contrast.
5.	Security procedure	Security screenings and customs	Signs Displays Paths and corridors counters	The font of the Signs marking the security screening counter should be larger with more pronounced contrast. There is a lot of glare from Plexiglas surfaces. TWSIs are not needed to mark the security screening counters because of the queue separators. Blind passengers will be assisted by the PRM staff. Partially sighted passengers could benefit from **coloured stripes** on the floor marking the way to the security screening and all the way through.
6.	First floor – departures – Indoors	Waiting areas	signs displays paths and corridors stairs	**Tactile orientation plan (3)** providing the layout of the indoor area should be placed in the PRM waiting area. It should include the following elements: PRM waiting area, shopping and catering facilities, sanitary facilities, departure points and gates, stairs, lifts. The information is provided in braille, raised lettering and large print.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Visual signs	Approach to / departure from the site	Parking - car	The visual directional signs showing the way from the parking to the entrance are lacking even for the passengers without the visual impairment. It is recommended to provide more visual signs.
2.	High contrast stickers marking the direction – the site in general	Inside circulation	Paths and corridors	Queue barriers (queue separators) that are used as COVID-19 countermeasures can pose a problem to the blind and partially sighted. The PRM staff will most likely accompany the blind passengers once they reach the information counter at the entrance. Partially sighted could benefit from the coloured stripes on the floor marking the safe direction to the inside circulation. For example, the path to the check in-counters, security screenings and customs, departure and arrival points, baggage claim, to the exit.
3.	The site in general	Inside circulation	Signs	Most of the signs are not sufficiently illuminated, and partially sighted people could have difficulties noticing them. If possible, the size of the signs should also be bigger with high contrast.
4.	The site in general	Sanitary facilities	Paths and corridors Signs Doors Toilets	The position of the signs indicating the sanitary facilities and types of the toilets is confusing. They are not located on the doors, but several centimetres away on the adjacent walls, which can cause confusion (sometimes on the left/right wall on the sides). They should be placed directly on the doors.
5.	The site in general	Entrance to / exit from the site Inside circulation	Doors	It is recommended to paint the frames of the glass and transparent doors in contrast to the walls in order to make them more noticeable.
6.	Signs on the entrance	Entrance	Signs displays	The signs marking the entrance to the site are of inadequate colour, contrast and size. They are not legible to the partially sighted. There is too much glare because of the glass surfaces.
7.	Signs on the entrance	Entrance	Displays	There is a lot of glare, too much information on screen at once.
8.	Inside the toilets for the persons	Sanitary facilities	toilets	Where there is no contrast between the toilet utensils, the floors, the doors and the walls, it is recommended to put the coloured high contrast stripe on the wall.

	with disabilities			
9.	Training of personnel	Disability Awareness Training	All	Even-though theoretical training of PRM service is implemented and regularly performed as well as raising of awareness of employees, there is a lack of practical training sessions which should be implemented from time to time.
10	The site in general	Terminal	Lifts	There is no audio floor system announcement, can be considered to be implemented.
11.	Signs on the parking lot	Parking lot	Signs	Visual guidance to and from the parking lot machines should be improved in order to be easily detected.

7.2. Prioritization of interventions Zilina Airport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	TWSIs Outdoors	Approach to /departure from the side	Bus stop Parking-car Parking-taxi Train stop	Approach to airport terminal from **parking spot for passengers** and from **taxi parking** is barrier-free and suitable for future TWSI´s installation. Approach from **bus station** is barrier-free without TWSI´s yet from west entrance to terminal but leads across the road to parking. In future this problem can be solved by direct path from bus stop to west entrance with TWSI´s and separation from road. Approach from **train station** is improved by barrier-free design of station after reconstruction, but any following TWSI´s haven´t been installed yet. Dangerous places are equipped with warning TWSI´s. The way from train station is long approx. 2km and follows the local road, what could be dangerous for people with visual impairment. Solution can be shuttle transport between train station and airport terminal in future.
2.	TWISs Indoors	Inside circulation, Departure/arrival point	Passport and Security Check Gates Apron Displays	No TWSI´s installed **inside terminal** yet, but whole terminal is barrier-free and relatively simple and straight forward orientation. The movement from gate to airplane leads across **apron**, installation of TWSI´s isn´t possible because apron has to meet requirements of ICAO Annex 14.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Tactile plan with Braille and audio guidance	Inside circulation	Signs	Next to every entrance could be located orientation plan of terminal in Braille markings. Before entering each part of terminal could be audio-guidance which will report actual location.
2.	Display height and font size	Inside circulation	Displays	Displays with actual departures and arrivals are placed opposite to main entrance in relatively appropriate height approx. 2m and size of text is sufficient.
3.	Toilet marking and accessibility	Inside circulation	Toilets	Insufficient marking but easy approach, toilets could have Braille markings.
4.	Audible warning carousel for baggage	Arrival points	Signs	Path from airplane to baggage carousel leads across arrival gate which is barrier-free, wide and clear of obstacle. Baggage carousel could be equipped with audio-warning about status of carousel and warning TWSI´s around carousel to avoid injuries people with visual impairments in case of careless approach.
5..	Audible warning for gates	Waiting areas	Gates	Gates could be equipped with audio-reporting about gate which is approached and TWSI´s which will safely lead people with visual impairments to sit places.
6	Braille output marking (for transport)	Departure from the site	Signs	At the path from baggage carousel to exit should be located signs with information about possibilities of transport from airport in sufficient size and in Braille markings.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Creation of smartphone-app	Pre- and post-travel access to information	Website and smartphone-app	The purpose of app should be: - prior information about orientation in airport terminal for people with visual impairments - prior announcement about using airport facilities by people with visual impairments to airport employees for the best possible service - feedback from people with visual impairments to airport employees for better service in the future.

7.3. Prioritization of interventions Sarajevo Airport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	TWSIs Outdoors	Approach to / departure from the site	Bus stop Parking-Car	There are no **tactile walking surface indicators** (TWSIs) in the areas where they are crucial. **Tactile surfaces are needed to be joined from the Bus station to the ones leading from the Parking lot, and then subsequently to the entrance of the Terminal**. Without TWSIs, blind and partially sighted passengers are not able to find the entrance to or the exit from the building. Directional TWSIs are used to mark the safe passage and help visually impaired passengers to avoid all the obstacles like trash cans, support posts, baggage carts etc. The persons using the white cane will follow the relief surface of the TWSIs whereas the partially sighted will rely on the contrast between the TWSIs and the floor for safe navigating. The implementation of the TWSIs in this area is a highest priority intervention.
2.	Tactile orientation plan	Approach to the site Inside circulation	Signs, Bus station, Doors Counters, PRM area	**Tactile orientation plan (1)** providing information about the important elements of the check in area should be provided at the main information counter. The information on the tactile plan is provided in tactile graphics, raised letters, large print and Braille. Important elements include the location of the bus station, taxi and car drop-off parking, pedestrian crosSigns, entrance and exits to the site for both departures and arrivals and TWSIs location. **Tactile orientation plan (2)** providing the layout of the ground floor and important elements should be placed indoors at the entrance or in the PRM corner. Important elements include the location of the entrance, information desk, toilets, check-in counters, stairs/escalators/elevators, waiting areas, directions for the departure gates, TWSIs location **Tactile orientational plans** should be placed minimum at the information desk for the **check in area and at PRM corners**. Also, tactile orientation plans can be placed at the **bus station or prior to entrance to the site** to enable easier orientation for blind and partly sighted passengers.

3.	TWSIs Indoors	Inside circulation, Exit from the site	Paths	**The TWSIs are needed to provide the direction from the entrance to the info desk** where visually impaired passengers can ask for PRM staff. Also, the TWSIs should lead in another direction, to the toilets (men, women and persons with disabilities). Also, the **TWSIs** are needed **from the terminal exit to provide direction to the Bus station**

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Door markings	Entrance to / exit from the site Arrival points	Doors	The main entrance and exit doors as well as doors in the airside arrivals area inside the site are made with insufficient visual markings. Partially sighted persons could mistake the walls for the doors and vice versa and get injured. The red or other distinctive **colour tape** should be placed at the eye level (approximately 1.50 m from the ground) and cover the entire width of the door.
2.	Contrast markings of stairs	Inside circulation	Stairs	The edge of each step should be marked with **contrast stripes** to make them more visible to partially sighted passengers. The warning TWSIs should be placed in front and at the end of the stairs set, along with directional TWSIs in the middle to provide the direction. All the stairs that passengers use should be marked with the more prominent visual contrast at the edge.
3.	Escalators tactile signs	Inside circulation	Escalator	**Tactile warnings** / posts should be placed **in front of the escalators** and escalators should be marked in tactile orientation plans.
4.	Accessible contrast signage indoors	Inside circulation	Toilets	The signs at the toilets are insufficiently noticeable. The toilets should have the **signs in Braille**, raised lettering and large print placed directly on the door indicating their type (Men, Women, People with disabilities). High contrast between the door, the background of the sign and the figures and text is important. It is suggested to have the inside of the toilet marked with a high contrasting band. Due to the close proximity of the baby table to the door it presents a potential risk to the blind/partially sighted passengers.

5.	Coloured striped guidance	Security screenings	Signs	Partially sighted passengers could benefit from (preferably red) **coloured stripes** on the floor marking the way from the stairs to the security screening and all the way through to the gate area.
6.	Coloured striped guidance - toilets	Arrival points	Signs	Partially sighted passengers could benefit from (preferably red) **coloured stripes** on the floor marking the way from the customs area to the adjacent toilets and all the way through to the exit.
7.	Indoors	Arrival points	Paths	**Baggage carousel** can be **marked with a highly contrasting label** so that it can be noticeable with more ease for partly sighted passengers.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Contrast signage at check-in areas	Inside circulation	Counters	Signage on the check in counters insufficient in size and contrast, could be of a larger font and higher contrast.
2.	Lift – signage in Braille	Inside circulation	Lifts	Braille markings could be added to the outside and inside control buttons of the lift
3.	Height of displays in check-in area	Inside circulation	Displays	Flight displays at the check in area are placed quite high making them inaccessible to partially sighted passengers. It is suggested to have display signs at an appropriate height (cca 1,5m-2m)
4.	Web-site accessibility improvement	Pre- and post-travel access to information	Web-site and smartphone-app	**The digital accessibility expert for the visually impaired should thoroughly check the web site accessibility** and give detailed recommendations on how to improve it. Important accessibility issues improvements should be implemented.
5.	Comprehensive digital guide for the visually	Pre- and post-travel access to information	Web-site and smartphone-app	After the implementation of the interventions to the site that will improve its necessary accessibility features, it will be important to **create a comprehensive guide for the visually impaired passengers and make it available on the site's web pages and apps.** The guide should be digitally accessible to screen readers. Its content can be provided textually or in

	impaired passengers			the form of the audio recordings. The example of the information that should be included in the guide: • how to ask for PRM assistance and what PRM assistance includes. For example, escort through the site – a) from the info desk to the departure point, b) from arrival point to the exit. Also, the description of situations where PRM staff can and cannot provide assistance. For example, the PRM staff can escort a person to the toilet, but cannot wait for the flight with the person for more than 2 hours. The PRM staff can help a person navigate the catering facilities to eat and drink, but cannot assist in duty free shopping… • description on the TWSIs and tactile orientation plans (where to find them), • the layout of the ground/first/second floor explained in text, • step by step direction on how to get to the departure points or how to exit the site when arriving by plane • the location of the toilets and how to find them by TWSIs • the information about the signage in Braille and where to find it • the explanation for the directional contrast stripes for the partially sighted • details about the amenities related to the site (for example, a list of shopping and catering facilities, rent-a-car stands, duty free shops, exchange office, travel agencies…).

7.4. Prioritization of interventions Podgorica-Tivat Airport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Outdoors	Approach to / departure from the site	Parking – car (drop-off in front of the entrance to the site) Parking – taxi Bus stop (shuttle bus)	There are no **tactile walking surface indicators (TWSIs)** in the areas where they are crucial. Without TWSIs, blind and partially sighted passengers are not able to cross the road (the traffic lane for the drop-off), to find the entrance to or the exit from the building. Moreover, it puts them at risk of getting injured by the vehicles that use this lane because there is no warning TWSI that is alerting them where is the border between the sidewalk and the road. Directional TWSIs are used to mark the safe passage and help visually impaired passengers to avoid all the obstacles like trashcans, machines, stands, baggage carts etc. Warning TWSIs alert the visually impaired persons that they should pay attention and can indicate: street crossing, the width of the doors, the ramp slope, the end of the pedestrian route, stairs, lifts, junction of the TWSIs and changing the direction, counters etc. TWSIs should mark all the entrances (departures) / exits (arrivals) to the building. In addition, the TWSIs should lead to the zebra crossing and to the taxi/bus/car drop-off position. The persons using the white cane will follow the relief surface of the TWSIs whereas the partially sighted will rely on the contrast between the TWSIs and the ground for safe navigating. The implementation of the TWSIs in this area is a highest priority intervention
2.	Outdoors	Approach to / departure from the site	Entrance Bus stop	**Tactile orientation plan** should be placed at the entrance in front of the building, or inside the building if it will contain the information about indoor area (ground floor), but also the outdoor area (entrances and exits, zebra-crossing, parking position).
3.	Ground floor – departures – Indoors	Inside circulation	Counters Doors Lifts Toilets Stairs	The **TWSIs** are needed indoors to provide the direction from the entrance to the info desk where visually impaired passengers can ask for PRM staff, the TWSIs to the toilets (men, women and persons with disabilities) so they can be independent, to the lifts and to the stairs for the departure points, to the PRM waiting area. Warning TWSIs marking the width of the entrance should be placed, as well as the directional TWSIs leading to the door (outdoors) and leading from the door to the information desk (indoors).

				Info desk is also a PRM corner, there are no TwSIs but they are needed. Twsis should lead to the counter and to the tactile orientation plan placed at the entrance inside, and then to the toilets.
4.	Ground floor – departures – Indoors	Entrance to the site Inside circulation Waiting areas	Doors counters	**Tactile orientation plan** providing the layout of the ground floor (and outdoor elements if there is no tactile orientation plan outside) and important elements should be placed indoors at the entrance or info counter. Important elements include the location of the entrance, information desk, toilets (men, women and persons with disabilities), check-in counters, stairs/escalators/elevators, waiting areas, directions for the departure gates, TWSIs location. The information on the tactile plan is provided in tactile graphics, raised letters, large print and Braille.
5.	Arrivals - airside	Approach to site	Platform and entrance to building	**TWSIs** should mark the ramps at the platforms where passengers arrive as well lead to the entrance to the site from the airside. Also, inside, the TWSIs should mark the way to the PRM counter, to the toilets and to the baggage claim corridor (it does not have to lead to the carousel itself). But after the baggage claim, TWSIs should lead to the exit from the site.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Outdoors	Entrance to the site	Signs	Near the entrance to the site, there should be the **sign for the parking for the persons with disabilities** (if this kind of parking exists. If not, it should be marked).
2.	Ground floor	Inside circulation	Entire site (floor, doors, walls, check-in counters…)	Partially sighted could benefit from **the coloured stripes on the floor** marking the safe direction to the inside circulation. For example, the path to the check in-counters, security screenings and customs, passport control, departure and arrival points, baggage claim, to the exit. Where there are TWSIs, there is no need for these stripes because TWSIs must be in contrast with the ground
3.	Arrivals – airside, outdoors	Approach to site	Signs	**Once the airplane lands** and the passengers descend, in case of walking on foot, there are **no signs** that mark the direction on where to enter the building.
4.	Arrivals – indoor, landside	Inside circulation – baggage claims	Signs	There is no need for TWSIs to the displays, but the **display should be placed in front of the carousel** and to have an audio announcement for which flight the bags are on which carousel. Currently the display is far behind, it is not possible to come closer to read the information and it is covered by high stands with ads.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	The site in general	Entire site	Signs, Toilets	Toilets are clearly marked, but there is no signage in braille or tactile relief. There is no **colour contrast between the walls, floor and sanitary fittings**. At least, the stripe that is in contrast with the walls and the floor should be placed at the height of 1 meter. The **signs for the toilets** (men, women, persons with disabilities) should be presented in large print/tactile letters and braille. The contrast between the background of the signs and the text should be high
2.	The site in general	Inside circulations	Paths and corridors	Queue barriers (queue separators) that are used as COVID-19 countermeasures can pose a problem to the blind and partially sighted. The PRM staff will most likely accompany the blind passengers once they reach the information counter at the entrance. Partially sighted could benefit from **the coloured stripes** on the floor marking the safe direction to the inside circulation. For example, the path to the check in-counters, security screenings and customs, passport control, departure and arrival points, baggage claim, to the exit.
3.	The site in general	Inside circulation	Doors, walls	**The stripes on the glass doors and walls** exist, but they are in the **low contrast**. It is recommended (low priority) to put these stripes in a more pronounced contrast.
4..	Digital accessibility	Pre- and post-travel access to information	Web-site and smartphone-app	**The digital accessibility expert for the visually impaired should thoroughly check the web site accessibility** and give detailed recommendations on how to improve it. Important accessibility issues improvements should be implemented.
5	Digital accessibility	Pre- and post-travel access to information	Web-site and smartphone-app	After the implementation of the interventions to the site that will improve its necessary accessibility features, it will be important to **create a comprehensive guide for the visually impaired passengers and make it available on the site's web pages and apps.** The guide should be digitally accessible to screen readers. Its content can be provided textually or in the form of the audio recordings. The example of the information that should be included in the guide: • how to ask for PRM assistance and what PRM assistance includes. For example, escort through the site – a) from the info desk to the departure point, b) from arrival point to the exit. Also, the description of situations where PRM staff can and cannot provide assistance. For example, the PRM staff can escort a person to the toilet, but cannot wait for the flight with the person for more than 2 hours. The PRM staff can help a

				person navigate the catering facilities to eat and drink, but cannot assist in duty free shopping… • description on the TWSIs and tactile orientation plans (where to find them), • the layout of the ground/first/second floor explained in text, • step by step direction on how to get to the departure points or how to exit the site when arriving by plane • the location of the toilets and how to find them by TWSIs • the information about the signage in Braille and where to find it • the explanation for the directional contrast stripes for the partially sighted • details about the amenities related to the site (for example, a list of shopping and catering facilities, rent-a-car stands, duty free shops, exchange office, travel agencies…).

7.5. Prioritization of interventions Budapest Airport

HIGHEST PRIORITY INTERVENTIONS

No.	*Title*	*Module*	*Building block*	*Rationale (explanation)*
1.	Absence of TWSI's in critical areas	Approach and departure to and from the site	Parking, bus stops, paths & corridors	The walkway crosses high traffic roads multiple times, without TWSI accident may occur.
2.	Under-stair areas	Approach and departure to and from the site	Stairs	These areas are not cordoned off, possibility for head injuries.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Escalators	Inside circulation	Escalators	Based on the survey we saw that, the escalators which can be found in the buildings, do not have those basic features, which makes them safe to use for blind and partially sighted. Safety was the primary consideration in the evaluation of this equipment for there is a possibility of injury. Still the escalators do not pose as great a threat to health therefore we gave them a "better" rating. When these escalators will reach the end of their lifetime, they must be exchanged with accessible ones.
2.	Absence of TWSI's	In general	Display, signs, paths and corridors, counters, lifts, toilets	Orientation for blind and partially sighted in the terminal is challenging. One of the most basic tools to solve this problem are the tactile indicators. Although there are many possibilities, routes, paths inside the building, laying down roads to the main areas, facilities can improve self-orientation. Because of the speciality of the terminal, implementing this solution is difficult. With alternative tool(s) we may exchange TWSI.
3.	Braille signs	In general	Signs, lifts, escalator, machines, toilets	Basic tool for blind and partially sighted to gather information from their surroundings and navigate on their own, making them completely dependent on others help. In the building we should have some sort of solution to navigate them around, and to pass critical information – e.g. instruction at security screening – to them Most of the machines have some sort of Braille writing, but it is common that these signs are not covering every aspect of the device.
4.	Audible information	In general	Signs	As stated above many times self-orientation and information gathering is basically impossible. Solutions based on audio can grant huge freedom without mayor investment and reconstruction which is an important view from investor side too.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Appropriate font size	In general	Signs	In many times information can be found in unreachable places, getting close to it is basically impossible. Reading this information for partially sighted can be challenging if not impossible. Fortunately, this information ais accompanied with pictograms in the vast majority of the time, so understating the massage in general is possible.
2.	Appropriate colour matching	In general	Signs	Guide boards are painted black where we use blue and white pictograms, fonts. Not the best matching for partially sighted.
3.	Appropriate contrasting	In general	Signs, stairs, doors	In the terminal we use a lot of grey, beige colours, which do not really provide good contrast in the environment. Picking the right colours can help partially sighted in detecting curtail objects around the terminal
4.	Paths are not free of obstacles	In general	Paths, corridors	From time to time we cordon off certain areas for safety/security reasons. If the temporal barriers are improperly positioned, these can cause problems. Staff must be aware of importance of proper use of temporal barriers.
5.	Machines with touch screens	In general	Machines	Most of the machines have touch panels. Still most of the machines are equipped with additional buttons, but a few can be found with only touch screens. Although from accessibility side these are serious problems, but if we take into account that this equipment is just alternatives for existing services, the weight of these aspects is not so heavy. Therefore, we ranked these machines to the low priority section.
6.	Slippery surfaces	In general	Paths, corridors, stairs	Can be a problem when the surfaces are wet, mainly in case of mopping up. Cleaning is mostly performed in the late night, when the traffic is generally low. In these cases – where it is possible – the staff puts out a slippery floor sign. The problem is treated well, but it must be mentioned due to the possible risk of accident. Changing the floor because of this is unlikely.

7.6. Prioritization of interventions Dubrovnik Port

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Digital accessibility	Pre- and post-travel access to information	Web-site and smartphone-app	In performed check of accessibility of the web page of DPA it was noted that it is not designed to be accessible nor for blind nor for partly sighted passenger. Since DPA is public institution it is essential that web page is to be accessible for blind and partly sighted passengers. Also, according to current legislation in force in Republic of Croatia, improvement of accessibility is needed.
2.	TWSIs Outdoors	Approach to / departure from the site	Parking – car Parking – taxi Bus stop Paths and corridors	TWSIs should indicate the pedestrian crosSigns near the port terminal from both entrances. Entrances and parking areas are under jurisdiction of Dubrovnik port Authority so this can be solved by DPA. Taxi and bus stop are not in the port area, so here is needed a cooperation with stakeholders for implementing TWSIs in this area.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	TWSIs - Outdoor and indoor (site in general)	Entire site	Doors, Signs, Paths, Corridors (ticket office, the path to the terminal, inside the terminal the path to the information desk, to security and passport control, the path to the toilets.	There is no TWSIs outdoors or indoors. In case of the departure/arrival, the TWSIs should lead from ticket office, parking, taxi or bus station to the terminal building with security screenings and passport control in case of international departure. In case of local departure/arrival, the TWSIs should lead from ticket office, parking, taxi or bus station to the dock. Warning TWSIs should indicate: doors, stairs, curbs, TWSIs change of direction or junction, counters, stands, ticket office, travel agency, information counters, toilets. Dock area is not adjusted, it is rather uneven, rough so for TWSIs it should be remodified. In the meantime it is suggested that PRM staff from ship, agency of the port take over the passengers.
2.	Outdoor interventions (TWSIs and removal of objects from the path)	Approach to / departure from the site Entrance to / exit from the site Inside circulation	Bus stop, Paths/Corridors	There is a public bus stop around 30meters from the entrance to the site. It could be beneficial to link these two locations with the TWSIs. **Tactile orientation** plan at the bus stop providing information about the location of the bus station, TWSIs, crosSigns, taxi parking and entrances to the building (arrival/departure) should be provided. On the bus station location two trash cans and two benches are located on the middle of the pedestrian narrow area, so those should be moved. TWSIs, zebra crossing, taxi parking and entrances to the buildings (arrivals and departures) should be provided. Due to the fact that this is not in the jurisdiction of Dubrovnik port Authority, cooperation with stakeholders is necessary for implementing TWSIs in this area. Also, **tactile orientation plan of the layout** that includes the passenger routs and directions for arrivals and departures could be beneficial. It could be placed before entering the site or at the ticket office.
3.	Accessibility policies,	Entire site	Disability awareness training	There is **no accessibility policies** prescribed within the Company.

	Costumer service standard and Disability awareness training			The site is not involved in working directly with the passengers. It provides infrastructure for the ships to dock and provides room for security screenings, ticket office, passenger toilets, information desks and travel agencies. Therefore, **the site does not have the PRM service**. In the case of arrivals, the PRM service depends on the stakeholders that use the site's infrastructure, and their PRM staff is responsible for the persons with reduced mobility. However, their responsibility lasts until the passengers disembark the ship and reach the terminal stand run by the site. **The recommendation is that at least one of the existing staff of the site (for example, security engineer or safety officer) attends the disability awareness training so he/she can assist PRM**. In the case of departures, one of the existing staff of the site trained in PRM can meet the person at the ticket office and provide assistance all the way to the terminal stand (security screening, passport control, travel agency, toilets), where the PRM staff from the stakeholders will take over.
4.	Marking and signage	Entire site	Key points within the site (entrance, PRM corner, parking…)	**There are no colour stripes** on the floor that could help partly sighted people for easier navigation through Port of Dubrovnik area. It should be implemented in the way to have as much contrast as possible from the floor surface for easy recognition. There are **no unified signs** in the port area that would enable passenger movement in the outdoor and indoor area, signs are often in form on A4 paper with no adequate font, illumination and glare. Also, there **are no unified signs on the toll machines** at the parking area **nor they are accessible to blind and partly sighted.**

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Contrast signage	Entrance to / exit from the site Inside circulation	toilets - signs	The signs for the toilets (men, women, persons with disabilities) should be presented in large print/tactile letters and braille. The contrast between the background of the signs and the text should be high.
2.	Creation of a comprehensive digital guide for the visually impaired passengers	Pre- and post-travel access to information	Web-site and smartphone-app	After the implementation of the interventions to the site that will improve its necessary accessibility features, it will be important to **create a comprehensive guide for the visually impaired passengers and make it available on the site's web pages and apps.** The guide should be digitally accessible to screen readers. Its content can be provided textually or in the form of the audio recordings. The example of the information that should be included in the guide: • How to ask for PRM assistance and what PRM assistance includes. For example, escort through the site – a) from the info desk to the departure point, b) from arrival point to the exit. Also, the description of situations where PRM staff can and cannot provide assistance. For example, the PRM staff can escort a person to the toilet, but cannot wait for the vessel with the person for more than 2 hours. The PRM staff can help a person navigate the terminal facilities to eat and drink, but cannot assist in shopping… • description on the TWSIs and tactile orientation plans (where to find them), • the layout of the ground floor explained in text, • step by step direction on how to get to the departure points or how to exit the site when arriving by boat • the location of the toilets and how to find them by TWSIs

				• the information about the signage in Braille and where to find it • the explanation for the directional contrast stripes for the partially sighted Details about the amenities related to the site (for example, a list of shopping and catering facilities, rent-a-car stands, shops, exchange office, travel agencies

7.7. Prioritization of interventions Kotor Port

HIGHEST PRIORITY INTERVENTIONS

No.	*Title*	*Module*	*Building block*	*Rationale (explanation)*
1.	TWSIs Outside terminal (pedestrian crossing)	Approach to / departure from the site	Parking – car Parking – taxi Bus stop Paths and corridors	TWSIs should indicate the pedestrian cross signs near the port terminal form both sides of the road. Since this is not in the jurisdiction of Port of Kotor, co-operation with stakeholders is necessary for implementing TWSIs in this area.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	TWSIs within the terminal and adjoining building with toilets.	Entire site	Doors Signs Paths, Corridors (ticket office, the path to the building with the security and passport control, the path to the building with the toilets, the path to the terminal at the dock).	**There is no TWSIs outdoors or indoors.** In case of the departure, the TWSIs should lead from the stairs and the escalators starting at the top of the pedestrian subway (underpass) to the entrance and the ticket office of the site. For the arrivals, the same TWSIs are enough (the route is vice versa). For the departures, the TWSIs should lead to the entrance of the building where the security screenings and passport control are located. Since the toilets and the travel agency are located in the building next to it, it is important to place the TWSIs leading there. Outside TWSIs should lead up to the place where the terminal stand (arrivals/departures) is located. At that stand, the PRM staff from the ship will take over the passengers. In case of the arrivals, the position of the TWSIs is the same and can be used in the reverse direction. TWSIs to indicate: doors, stairs, curbs, TWSIs change of direction or junction, counters, stands, ticket office, travel agency room, toilets…
2.	TWSIs to public bus stops	Approach to / departure from the site	Bus Stop	**There is a public bus stop located around 300 meters from the entrance to the site. It could be beneficial to link these two locations with the TWSIs** **Tactile orientation plan at the bus stop providing information about the location of the bus station**, TWSIs, zebra crosSigns, taxi parking and entrances to the buildings (arrivals and departures) should be provided. Since this is not in the jurisdiction of Port of Kotor, coo-operation with stakeholders is necessary for implementing TWSIs in this area
3.	Disability awareness training for staff	Entire site	Disability awareness training	There are **no accessibility policies** prescribed within the Company. The site is not involved in working directly with the passengers. It provides infrastructure for the ships to dock and provides room for security screenings, ticket office, passenger toilets and travel agencies. Therefore, **the site does not have the PRM service**.

				In the case of arrivals, the PRM service depends on the stakeholders (travel agencies) that use the site's infrastructure, and their PRM staff is responsible for the persons with reduced mobility. However, their responsibility lasts until the passengers disembark the ship and reach the terminal stand run by the site. **The recommendation is that at least one of the existing staff of the site (for example, security engineer or safety officer) attends the disability awareness training so he/she can assist PRM**. In the case of departures, one of the existing staff of the site trained in PRM can meet the person at the ticket office and provide assistance all the way to the terminal stand (security screening, passport control, travel agency, toilets), where the PRM staff from the stakeholders will take over
4.	Marking and signage	Entire site	Key points within the site (entrance, PRM corner, parking…)	**There are no colour stripes** on the floor that could help partly sighted people for easier navigation through Port of Kotor area. It should be implemented in the way to have as much contrast as possible from the floor surface for easy recognition. There are **no unified signs** in the port area that would enable passenger movement in the outdoor and indoor area, signs are often in form on A4 paper with no adequate font, illumination and glare.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Tactile orientation plan	Entrance to / exit from the site Inside circulation	Paths/Corridors	Tactile orientation plan of the layout that includes the passenger routs and directions for arrivals and departures could be beneficial. It could be placed before entering the site or at the ticket office.
2.	Toilet signage	Entrance to / exit from the site Inside circulation	toilets - signs	The signs for the toilets (men, women, persons with disabilities) should be presented in large print/tactile letters and braille. The contrast between the background of the signs and the text should be high.
3.	Creation of a comprehensive digital guide for the visually impaired passengers	Pre- and post-travel access to information	Web-site and smartphone-app	After the implementation of the interventions to the site that will improve its necessary accessibility features, it will be important to **create a comprehensive guide for the visually impaired passengers and make it available on the site's web pages and apps.** The guide should be digitally accessible to screen readers. Its content can be provided textually or in the form of the audio recordings. The example of the information that should be included in the guide: • how to ask for PRM assistance and what PRM assistance includes. For example, escort through the site – a) from the info desk to the departure point, b) from arrival point to the exit. Also, the description of situations where PRM staff can and cannot provide assistance. For example, the PRM staff can escort a person to the toilet, but cannot wait for the vessel with the person for more than 2 hours. The PRM staff can help a person navigate the catering facilities to eat and drink, but cannot assist in duty free shopping… • description on the TWSIs and tactile orientation plans (where to find them), • the layout of the ground/first/second floor explained in text, • step by step direction on how to get to the departure points or how to exit the site when arriving by plane • the location of the toilets and how to find them by TWSIs • the information about the signage in Braille and where to find it

				• the explanation for the directional contrast stripes for the partially sighted • details about the amenities related to the site (for example, a list of shopping and catering facilities, rent-a-car stands, duty free shops, exchange office, travel agencies…).

7.8. Prioritization of interventions Budapest Public transport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Accessibility audit and development of BKK webpage for blind and visually impaired passengers	Website	Website	Currently the BKK webpage (www.bkk.hu) isn't available for blind and visually impaired people, it needs to fulfil requirements of international certification (BKK homepage).
2.	Tactile signals	Approach / departure to/ from the site	BUS STOPS PATHS, CORRIDORS	TWSIs implementation where currently missing, and refitting where faulty, inaccurate, or incomplete
3.	Braille inscriptions / signage on vending machines	Waiting areas (every assessed place)	MACHINES	There is only on the ticket vending machine (TVM) toll buttons, otherwise it is completely missing on the route

4.	Road signs and direction signs along the route	On-site assessment / Deák Ferenc square; Kőbánya Kispest M; Budapest Airport / Inside circulation	SIGNS + PATHS, CORRIDORS	Tactile signals would be very useful / necessary
5.	Evacuation route at the Deák Ferenc square's underpass	On-site assessment / Deák Ferenc square underpass / Inside circulation	EVACUATION ROUTE + PATHS, CORRIDORS	There is no signal system (i.e.: TWI guidance path, emergency exit signalling system) for it at the Deák Ferenc square' underpass
6.	Good quality, accessible maps with TVSIs leading to it	On-site assessment / Deák Ferenc square; Kőbánya Kispest M; Budapest Airport / Inside circulation	SIGNS + PATHS, CORRIDORS	Even though there are signs in some places, the route cannot be planned, the directions are not revealed.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Contrasting indications – stairs and pavement edges	Waiting areas / Inside circulation (every assessed place)	PATHS, CORRIDORS + STAIRS	It is necessary to repaint and mark the edges of stairs and pavements
2.	Placement of signs/boards and improving readability	Inside circulation (every assessed place)	SIGNS	The schedule boards are placed too high, the inscriptions are lower case, illegible, difficult for even the sighted.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Acoustic information systems	Waiting areas (every assessed place)	DISPLAYS	Not available everywhere, device required (FUTAR journey planner display)
2.	Sufficient visual guidance	Inside circulation (every assessed place)	PATHS, CORRIDORS	There is no comprehensive map, no meaningful guidance on what is where. The passenger information signs at stops (departure times, public transport information) are in very small letters and are difficult to read. They do not have Braille information to help blind and partially sighted people (stop signs + map of the surroundings).
3.	Additional Futár App Display	Waiting areas (every	DISPLAYS	The FUTÁR journey planner display has a loudspeaker. This can be used by BKK to provide audio traffic information for passengers, while blind and visually impaired customers can

		assessed place)		use a special remote control to activate the loudspeaker on the display. There are not enough displays, the nearest display is located very far from the airport-bus stop (Köki).
4.	Slip-resistant floor	Inside circulation (every assessed place)	PATHS, CORRIDORS	Not provided in adequate quality everywhere on the route

7.9. Prioritization of interventions Maribor Public transport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Outdoor TWSIs	Approach to and departure from the site	Paths, corridors, signs	Connected TWSI should be provided from the car park, taxi car park, from all crossroads to all entrances of the bus station and to the outdoor bus platforms. NORTH: TWSI is provided from the crossroads to the beginning of the stairs leading to the north main entrance. The stairs do not have tactile warning signs. There is no guiding line from the stairs to the entrance. The ramp is not marked.
2.	Acoustic signals for traffic lights	Approach to and departure from the site	Paths, corridors	The traffic light on the south and southwest crossroads has no acoustic signal and the acoustic signal on the north crossroads is not audible enough.
3.	Contrasting strip – main entrance stairs	Entrance to and exit from the site	Stairs	NORTH MAIN ENTRANCE: We propose to add colour contrasting strips at the edge of each step.
4.	Indoor TWSIs	Inside circulation, waiting areas	Signs, Paths, Corridors	TWSI, which was glued to the stone floor was installed inside the bus station. However, these were peeled off due to cleaning and maintenance of the floor and can no longer be used. We propose that the new TWSI would be cut into the stone floor which would make it durable and aesthetic. It should be installed along the east corridor leading to main exits and platform exits, ticket and information office, sanitary facilities and to the large timetable display and grocery shop.
5.	Directional signs in large print, braille and relief in line with the new graphic design	Approach to and departure from the site Entrance to and exit	Signs	There are no directional signs to guide passengers to the entrances/exits, information and ticket office and to areas and platforms for city, inter-city and international travel… The current signs are not in relief and are placed too high to be reached. Current information signs are placed directly above the service area they are indicating. The pictograms (stickers) on glass door inform the passenger about the services but they do not direct them to these services.

		from the site, Inside circulation, Waiting areas		We propose the new graphic design for all signs and stickers on glass doors. We propose adding directional sign in relief and Braille along the proposed TWSI where needed.
6.	'Call for help' system in the sanitary facility	Sanitary facilities	Toilets	We propose installing an alarm system, which notifies the dedicated staff at the bus station that a passenger needs help in the sanitary facilities.
7.	Evacuation plan and appropriate signalization	Evacuation route	Evacuation route	There is no evacuation plan or any other signs to direct people in case of emergency. There is no outdoor assembly point marked. We propose that a floorplan with important information on exits, platform, information and sanitary facilities be placed on several clearly visible places and be made in relief and Braille also.
8.	Visual and audible emergency alarm system	Evacuation route	Evacuation route	There is no emergency alarm system. We propose that the alarm system be installed and have visible and audible announcements in cases of emergency to direct people to nearest exits.
9.	Large freestanding indoor bus timetable display	Inside circulation, waiting areas	Displays	The displays are too small and placed too high for the people to be able to come close to them. In relation to the size of the display, the letters are too small. We propose to install a large, freestanding display for arrival and departure timetables in line with the SIST ISO 21542.
10.	Acoustic information system and an indoor hearing loop	Arrival and departure points	Bus stops, Signs, Paths, Corridors	We propose that an acoustic information system and a hearing loop (audio induction loop) are installed to have audio announcements of the arriving and departing busses.
11.	Improved illumination at main entrances	Entrance to and exit from the site	Signs	MAIN ENTRANCE NORTH: The whole area at the north main entrance is not illuminated enough. That is why signs are also poorly visible or not visible at all. MAIN ENTRANCE WEST: The entrance is quite dark, also during the day that is why the signs are poorly visible. We propose mounting led lights above the entrances.

12.	Window intercom system	Inside circulation, waiting areas	Counters	There is no microphone to ensure easy communication between the passenger and the staff member behind the glass wall above the counter. We propose that a suitable system be installed.
13.	Policies on accessibility	Site policies, service standards and awareness training	Accessibility policies	No policy as a document was mentioned during our off-site assessment meeting. We propose adopting accessibility policies.
14.	Training to assist persons with visual impairments in evacuation	Site policies, service standards and awareness training	Accessibility policies	Since there is no such training, we propose that such training be carried out for all staff working at the site.
15.	Customer service standards	Site policies, service standards and awareness training	Customer service standards	No customer service standards document was mentioned during our off-site assessment meeting. We propose adopting customer service standards.
16.	Lift to the under passage[4]	Approach to and departure from the site	Lifts	The ramp cannot be used as an alternative to the stair because it is too steep, a lift should be installed at the eastern and western entrance to the under-passage.

[4] *16. – intervention for bus stop City*

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Handrails maintenance at north main entrance	Entrance to and exit from the site	Stairs	MAIN ENTRANCE NORTH: The handrails on the stairs are not well maintained and therefore present a hazard. The handrail ends before the person reaches the landing. Handrails need to be fixed.
2.	Improved illumination in sanitary facilities	Sanitary facilities	Toilets	The toilet is well illuminated, however the interval for lights on is quite short. There are no additional sensors inside the toilet cabins to turn the light on again. We propose that the interval be prolonged or additional sensors be installed inside the individual cabins.
3.	Improved indoor illumination	Inside circulation, waiting areas	Paths, corridors	The indoor lightning in insufficient, it is too dark during twilight/night-time.
4.	Improved East platforms illumination	Arrival and departure points	Paths, corridors	East platforms are not sufficiently illuminated, the route is not well visible.
5.	Improved West platforms illumination	Arrival and departure points	Paths, corridors	West platforms have individual information columns that include bus number, timetable, pricelist etc. these columns are sufficiently lit during twilight/night so the information is not visible. We propose that lighting be improved and lighting of individual bus booths be added.
6.	Removal of outdoor barriers on paths and corridors	Approach to and departure from the site	Paths, corridors	A barrier is located on the way from the car park to the crossroad which needs to be removed. On the route from the crossroad to the main entrance there are many barriers and a bike route which interacts with the walking space. The whole space is very varied. There are many flower boxes tree pots, bike stands, street light and benches, which make orientation and safe mobility difficult for visually impaired people. The outdoor of the terminal has floor pattern in black and white tiles, which makes detection of barriers even more difficult. Moreover, TWSIs is not in contrast with the rest of the floor surface. Certain barriers are not clearly marked with contrasting stripes. A detailed plan for outdoor area so the area is accessible to persons with reduced mobility. We propose to have shared space for pedestrians and cyclists and TWSIs.

7.	Braille and relief signs on East platforms	Arrival and departure points	East platforms / Signs	We propose that the signs in Braille and relief be placed on the columns at the platforms which would be in line with the new graphic design.
8.	Indoor Braille and relief signs	Inside circulation, waiting areas	Signs	Relief signs and Braille signs to be placed near/alongside proposed/existing TWSIs.
9.	Indoor TWSI inside the ticket office	Inside circulation, waiting areas	Counters	TWSIs leading to ticket and information booth to be installed.
10.	Braille and relief signs for sanitary facilities	Sanitary facilities	Toilets, Signs	Signs for toilets in Braille and relief are proposed.
11.	Removal of hard-to-detect barriers in inside circulation paths	Inside circulation, waiting areas	Paths, corridors	An empty low tree box (hard to detect) is impeding passengers at the end of the end of the main pedestrian corridor (south) - the tree is missing thus the low pot can be easily overlooked. Alternatively, a new tree can be planted increasing visibility of the flower box.
12.	Passenger assistance service	Inside circulation, waiting areas	Counters	There is no dedicated assistance service for persons with impaired mobility available. Help is offered by information or ticket staff but only when they are not occupied with their regular work. We propose that a dedicated person would be available for assistance during the opening times of the station since the opening hours of the ticket and information office are shorter. Tickets and information opening hours: 8 a.m. – 10 p.m. Operating hours of bus station: 5 a.m. – 11 p.m.
13.	Accessible taxi parking bay	Approach to and departure from the site	Parking taxi	Taxi parking bays are available, but there are no special taxi parking bays for people with disabilities. They are located on the side of the road. They allow safe (dis)embarking for passengers on the sidewalk. However, there is insufficient space for passengers with mobility impairments to safely (dis)embark. We propose that one taxi parking bay would be set up as accessible parking and have lowed curb to allow accessible movement onto the sidewalk and TWSIs guiding to the main entrance.

14.	Sign for Maribor central bus station	Approach to and departure from the site	Signs	NORTH, WEST: The sign for the MARIBOR CENTRAL BUS STATION is not clearly visible. The letters are too small and the contrast is insufficient due to transparent glass doors. Due to poor lighting, the sign is not visible in the dark. The sign on the north main entrance cannot be read from the outside, since it is placed so that it is read from the inside of the station.
15.	Bus lines and timetables on East platforms	Arrival and departure points	East platforms / Signs	The signs for intracity bus lines (including numbers) are of appropriate size and contrast. The letter size of inter-city bus lines is too small and the contrast is insufficient due to transparent glass background. The size of letters for bus timetables is too small. The type of font is suitable. We propose that new contrasting stickers with bus routes be placed for inter-city busses and that the bus timetables for city buses would be printed in large print.
16.	Bus lines and timetables on West platforms	Arrival and departure points	West platforms / Signs	The font of all information (pictograms and bus timetable) placed on the columns at the West platforms is too small. The font type is suitable. However, the size of the columns does not allow for larger signs and timetables.
17.	Audible announcements[5]	Waiting areas, arrival/ departure points	Bus stops	We recommend audio announcements or a speech output for the display.
18.	Display	Waiting areas, arrival/departure points	Displays	The display cannot be seen since it is mounted on the top of the bus shelter and turned to face the shelter rather than outward. It should be turned to face the other direction or moved to the other side of the bus shelter. The display is mounted too high.
19.	TWSIs from West side approach[6]	Approach to and departure from the site	Paths, corridors	WEST: We suggest installing TWSIs from Leon Štukelj square along the City shopping centre, by the under passage to the bus stop.
20.	Contrasting lines on stairs	Approach to and	Stairs	There is a short contrasting line on each step, which is very faded and hard to see. It should be refurbished and add the contrasting strip along the whole of the first and last step.

[5] *17. and 18. – interventions for bus stop UKC*
[6] *19. to 24. – interventions for bus stop City*

		departure from the site		
21.	Audible announcements	Waiting areas, arrival departure points EAST and WEST	Bus stop, Signs	We recommend audio announcements or a speech output for the display.
22.	Removal of barriers on paths and corridors	Approach to and departure from the site	Paths, corridors	UNDERGROUND PASSAGE: On the East side, the bin should be moved to the wall opposite the staircase to allow barrier free orientation and mobility along the wall. The TWSI tiles should be renovated on the shaft on the east side just before of the staircase. Part of the foundation of the staircase fence on the west side is protruding out into the walking area and should be removed.
23.	Displays	Waiting areas, arrival departure points EAST and WEST	Display	EAST: There is no display. WEST: The display was not working at the time of our daytime assessment. It was working during the night assessment. The information on it is clear. We propose adding a display on the East side and maintenance of the display on the West side.
24.	Increasing font size on the display	Waiting areas, arrival departure point EAST and WEST	Display	The size of letters on the display is too small. The display is mounted very high so it is impossible to come close to it. That's why the font size should be larger.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Contrasting door frame	Entrance to and exit from the site	Doors	MAIN ENTRANCE NORTH, MAIN ENTRANCE WEST, WEST 1, 2: In relation to the surrounding glass walls, the door frames are not contrasted enough, which makes it difficult to detect where the door is and which are fixed glass walls. We propose a contrasting door frame or fixed glass walls in frosted glass.
2.	Contrasting warning signs at eye level	Entrance to and exit from the site	Doors	MAIN ENTRANCE NORTH, MAIN ENTRANCE WEST: Glass doors do not have contrasting warning signs in eye height. WEST 1,2: Glass doors do not have contrasting warning signs in eye height and door handles are not in contrast. WEST 3: Door handle is contrasted enough; the door does not have contrasting warning signs in eye height. We propose colour contrasting stripes at eye height on all doors and contrasting door handles.
3.	Clear signage of glass doors and walls to East platforms	Inside circulation, waiting areas	Paths, corridors, Signs, Doors	Due to large transparent glass walls and doors, the foreground and background are hard to interpret and clear contrast is lost. The information placed on the glass walls and doors is hard to distinguish because the background can be seen through glass surfaces. We propose a cleared signage of glass doors leading to East platforms and new information stickers with solid background-foreground (not (semi)transparent).
4.	Maintenance of illuminated signs	Inside circulation, waiting areas	Signs	Illuminated signs are not light. Illumination in these signs should be maintained.
5.	Maintenance of existing TWSIs on East platforms	Arrival and departure points	East platforms / Bus stops	Existing TWSIs on the platforms to be cleaned and refurbished.
6.	Clear signage of individual ticket and information counters	Inside circulation, waiting areas	Counters	The ticket and information office has six connected counters. There are two operating ticket counters and one information counter, others seem to be closed. The connected counter itself is easily detectable, however due to many different notices, adds and information on a glass wall over the counter, it is hard to determine where the opening to speak to the staff is.

				We propose that the individual boxes and openings are more clearly marked and all advertisements and other posters be removed or placed elsewhere.
7.	Clear signage of the East platforms	Arrival and departure points	East platforms / Signs	We propose that the areas for city, inter-city and international travel be clearly marked. We propose that additional illuminated signs with number of the platforms be placed also at the platforms.
8.	Accessible parking sign	Approach to and departure from the site	Parking - car	The parking bays are of standard size in a suitable location and have a floor and vertical signs for accessible parking. The direction in which the vertical sign is facing should be corrected as it is turned slightly to the right instead of straight.
9.	Maintenance of paths and corridors on outdoor areas	Approach to and departure from the site	Paths, corridors	The floors need to be renovated in some areas, where the floor tiles are not level
10.	Improved orientation line at the East side approach	Approach to and departure from the site	Paths, corridors	ENTRANCE EAST: Visually impaired passengers use the edge of the sidewalk leading from the stairs of the train station towards the bus station. For some part, the edge is lowered to allow access to the car sharing car park. We propose that the edge of the carpark in marked using tactile colour mark.
11.	Maintenance of handrails	Entrance to and exit from the site	Stairs, Ramps	MAIN ENTRANCE NORTH: The colour is suitable; the handrails need to be refurbished.
12.	Transportable ramp	Arrival and departure points	East platforms / Bus stops	The majority of intracity buses are accessible also for people with mobility impairments. Inter-city busses are not accessible for people with mobility impairments, since they have stairs, so even appropriately designed bus stops do not guarantee access to inter-city busses. We recommend purchase of a removable ramp to enable access to at least some inter-city busses.
13.	Numbering of West platforms	Arrival and departure points	West platforms / Signs	We propose that the outdoor platforms on the west side should be numbered or otherwise clearly signed.
14.	Information signs Braille and relief in line with the new graphic design	Arrival and departure points	West platforms / Signs	We propose that the platform number and bus numbers be placed on the columns in relief and Braille.

15.	Disability awareness training of staff members	Site policies, service standards and awareness training	Disability awareness training	There was one disability awareness training carried out in 2018. We propose to carry out regular annual disability awareness training for all staff, including management, not just staff who are in contact with passengers.
16.	Specialized disability specific staff trainings	Site policies, service standards and awareness training	Disability awareness training	As there was only one general disability awareness training, we propose that more disability type specific trainings be carried out on a regular basis.
17.	Staff training on visual impairment	Site policies, service standards and awareness training	Disability awareness training	As there was only one general disability awareness training, we propose that visual impairment specific trainings be carried out on a regular basis in line with the accessibility strategy and training strategy already mentioned.
18.	Web site compliance with W3C levels A/AA or AAA	Pre- and post-travel access to information	Website/Smart phone app	We were unable to thoroughly check compliance, since we are not experts in the field, an automated check showed some need for improvement. Since compliance is legally binding, we propose that the company checks compliance together with their ICT provider.
19.	Information on the building in suitable formats	Pre- and post-travel access to information	Website/Smart phone app	The website does not have any information on the building, neither in graphic or text. We propose adding such information on the website.
20.	Services for the blind and partially sighted	Customer service standards	Website/Smart phone app	We propose that disability related services be provided and information about it available on the web site, app and that services could be booked online via website or app and by phone or e-mail.
21.	Telephone information services	Pre- and post-travel	Telephone services	Information on bus timetables is limited to the working hours of the ticket and information office and is limited in scope, especially for inter-city and international travel.

		access to information		
22.	Improved illumination of bus shelters and relevant information[7]	Waiting areas, arrival/ departure points	Paths, Corridors, Bus stops	Illuminated advertisement boars and the surrounding illuminated shop windows give light to the bus stop. We propose separate lighting for the bus shelter, especially for the information and timetables inside the glass bus shelter.
23.	Improved TWSIs	Approach to and departure from the site	Paths, Corridors	TWSIs is provided at the bus stop and embarking/disembarking area is clearly marked. We propose to add tactile guidance to the nearest building where the person can orientate themselves further.
24.	Sign of the bus stop	Waiting areas, arrival/ departure points	Signs	The bus stop is small and directional signs are not needed. However, the bus stop does not have a sign telling which stop it is. We recommend adding a sign 'University medical centre Maribor' which would be big enough to be seen also from the bus itself not only while standing at the bus stop.
25.	Size of informational signs	Waiting areas, arrival/ departure points	Signs	The size of signs indicating bus lines could be larger like the ones at Magdalena bus stop. The signs have good contrast. The font size of bus timetables and other information on the wall of the bus shelter is too small.
26.	Braille and relief signs	Waiting areas, arrival/ departure points	Signs	We recommend that the numbers indicating bus lines, the name of the bus stop and other pictograms be made in relief and Braille also.
27.	Improved illumination[8]	Waiting areas, arrival	Signs	EAST/WEST: In the dark, all information is poorly visible and difficult to read. We propose that additional lighting is placed inside the bus shelter especially where the bus timetables are.

[7] *22. to 26. – interventions for bus stop UKC*
[8] *27. to 36. – interventions for bus stop City*

		departure points EAST and WEST		
28.	Signs	Waiting areas, arrival departure points EAST and WEST	Signs	EAST/WEST: The bus stop is marked by a sign on the glass wall of the bus shelter which is not visible from the bus. We propose that a bigger sign be placed so that it would be clearly visible from the bus also. EAST: the numbers of busses indicating bus lines are placed on the glass wall of the bus shelter. Since that wall is obstructed by the fence of the underground passage it is impossible to come close to the wall to see them. We propose that the bus lines would be placed also on the inside wall of the bus shelter. The bus timetables have a font size which is too small.
29.	Shared space	Approach to and departure from the site	Paths, corridors	EAST: The path is maintained and kept free of barriers. WEST: The approach from the underground passage is free of barriers and well maintained (apart from the foundation of the fence which we mentioned above). However, there is also a bicycle route placed in the middle of the pedestrian zone so the orientation is difficult. We propose that shared space for pedestrians and cyclist be introduced in the area of the bus stop.
30.	Improved illumination of the staircase	Approach to and departure from the site	Stairs, ramps	The staircase and ramp are not well lit. There are lights in the wall along the staircase but they are not lit.
31.	Ramp surface	Approach to and departure from the site	Ramps	The surface seems smooth and slippery, especially when wet. We propose a non-slippery surface.
32.	Improved illumination on the approach	Approach to and departure from the site	Paths, corridors	EAST: The approach to the bus stop from the Adolf Drolc medical centre is not well lit. WEST: The approach to the bus stop from Leon Štukelj square is not well lit.

33.	Improved illumination of bus shelters and relevant information	Waiting areas, arrival departure point EAST and WEST	Bus stop	EAST/WEST: During the night, the bus stop has good illumination coming from the streetlights. However, the large illuminated advertisement boards stand out more than the relevant information such as bus timetables, maps, routes etc. We recommend installing light inside the bus shelters.
34.	Signs	Waiting areas, arrival departure point EAST and WEST	Signs	EAST/WEST: The bus stop is not very big and does not need directional signs. However, it would be good if the bus numbers would be in larger font to be more visible.
35.	Relief and Braille signs	Waiting areas, arrival departure point EAST and WEST	Signs	We propose that the bus stop name, bus lines and pictograms be added in relief and braille.
36.	Display	Waiting areas, arrival departure point EAST and WEST	Displays	The content is clearly visible during the night and in the shade. Direct sunlight causes glare.

7.10. Prioritization of interventions Chisinau airport

HIGHEST PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Tactile walking surface indicators -outside	Approach to / departure from the site	Parking – car for staff (drop-off in front of the entrance to the site and pedestrian crossing from / to the parking) Parking – taxi Bus stop (trolleybus) Entrance corridor	There are no **tactile walking surface indicators** (TWSIs) in the areas where they are crucial. Without TWSIs, blind and partially sighted passengers are not able to cross the road (the traffic lanes for the drop-off and pedestrian crossing to / from the parking), to find the entrance to or the exit from the building. Moreover, it puts them at risk of getting injured by the vehicles that use traffic lanes because there is no warning TWSI that is alerting them where is the border between the sidewalk and the road or the input path to the terminal.
2.	Revolving doors at main entrance	Entrance to the site	Doors	**The arrival / departure entrance doors** are revolving automated ones. This type of doors are dangerous for blind and sighted people
3.	Tactile walking surface indicators -inside	Inside circulation	Doors, elevators, technical sanitary groups, stairs	On the ground floor there is no TWSI leading to the information and check-in counter, elevators, stairs, etc. TWSI elements are required to provide visually impaired passengers with directions to the information desk, where they can request qualified staff to assist them.
4.	Glass walls and doors – contrast strips	In general	Doors and walls	The majority of the walls and the doors inside the site are made of glass with insufficient visual markings. Partially sighted persons could mistake the walls for the doors and vice versa, and get injured. The red or other distinctive **colour tape** should be placed at the eye level (approximately 1.50 m from the ground) and cover the entire width of the door. There is also a lot of glare because of the glass surfaces and ceramic tiles of the floors in some parts of the site.

5.	Stairs – contrasting strips	Entrance to / exit from the site Inside circulation Departure points	Stairs	The edge of each step should be marked with **contrast stripes** to make them more visible to partially sighted passengers. The warning TWSIs should be placed in front and at the end of the stairs set, along with directional TWSIs in the middle to provide the direction. All the stairs that passengers use should be marked with the more prominent visual contrast at the edge.

MEDIUM PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Web-page accessibility	Pre- and post-travel access to information	Website and smartphone-app	The **webpage** and **smartphone-friendly webpage** have been tested with one of the most widely used desktop screen readers in the Google Chrome browser and have proven to be quite accessible. An accessibility expert for the visually impaired has also tested them. The general appreciation is that the web page is accessible, but that some interventions should be made. Explanations on this topic are provided in the evaluation grid.
2.	Absence of TWSI's	Sanitary facilities	Information display, Conventional signalling, corridors, Elevators	Orientation for blind and partially sighted in the terminal is challenging. One of the most basic tools to solve this problem are the tactile indicators. The lack of tactile signalling routes makes it very difficult to receive relevant information and move through the terminal, especially for the visually impaired, even if the surface of the terminal is quite compact and clear. This can make it difficult to use a TWSI solution, not impossible, using software technologies.

3.	Braille signage missing	In general	Signalling, Elevators, Escalators, Self-service machines, Sanitary technical groups	For the blind and visually impaired, the basic tool for gathering information and navigating the built space, making them completely independent of the help of others, is the Braille reading system. In built buildings, (in this case - in the terminal) a solution should be available to enable them to move in the right directions or to provide them with critical information - for example, behaviour in critical situations or how to get to the bathroom. Most of the equipment manufactured in the EU, as a certification requirement, includes the provision of basic information in Braille (lifts), but not always or in all cases, these requirements are met. Some of the equipment and facilities of the terminal are not adapted to these requirements.
4.	Sanitary facilities – paths and signage	Sanitary facilities	Paths and corridors Signs Doors toilets	Paths to toilets must be marked with TWSI type elements. The guidance information on the doors must be visible and contrasting for the visually impaired, and the bathrooms themselves must meet the requirements for this type of user.
5.	Contrast floor markings at security screening	Security screenings and customs	Signs Displays Paths and corridors counters	The font of the sings marking the security screening counter should be larger with more pronounced contrast. It is also important to exclude the shine of these surfaces. These routes must not be marked with TWSI type elements, as they are physically marked and specialized terminal staff must assist blind passengers. Visually impaired passengers may be assisted by **coloured stripes** on the floor marking the way to the check-in counter.
6.	Tactile Orientation Plan - First floor	Waiting area	signs displays paths and corridors stairs	**A Tactile Orientation Plan,** which provides information on the schematic arrangement of the waiting-departure area, should be provided at the entrance to this area. The plan should include locating the following items: waiting area for the blind and visually impaired, shopping and catering facilities, sanitary facilities, boarding gates (exit boarding), stairs, elevators, etc. The information is provided in braille, embossed and capital letters.
7.	Audio information for passengers	In general	Signs	Audio-based solutions can provide huge freedom without major investment and rebuilding.

LOW PRIORITY INTERVENTIONS

No.	Title	Module	Building block	Rationale (explanation)
1.	Signage illumination and contrast	Inside circulation	Signs	Most signs are not well lit, and people with visual impairments may have difficulty seeing and reading them. If possible, the size of the signs should also be larger, with high contrast
2.	Adequate contrast on walls	In general	Sings, steps, doors	The terminal uses many grey, beige colours, which do not really offer a good contrast in the colour environment of the terminal. Choosing the right colours can help visually impaired people to detect particular objects in the terminal space.
3.	Font size and brightness	Entrance	Displays	The displays installed in the terminal are with bright monitors, and their diagonal, in relation to the large volume of information placed (lowercase letters), make it difficult for people with visual impairments to read.
4.	Audio information in lifts	Inside circulation	Lifts	There is no audio information / warning system in the lifts. It is desirable to implement.