Implementation of Transport Accessibility in the Tourism Sector

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Abstract. *The prevailing trend in the development of tourism is to enhance the accessibility of tourist services for all segments of society. To this end, a range of measures must be implemented at both the state and local levels, as well as by the enterprises themselves. The present paper explores the merits and drawbacks of the various modes of transport utilised in the provision of tourist services. It is determined that in the future the transport offer in tourism will develop in the following directions: increasing the environmental friendliness of transport, ecological types of transport; accessibility of transport offer for people with disabilities; increased attention to travel safety; improvement of transport infrastructure. It is noted that the main barriers faced by tourists with disabilities are: inaccessibility of transport infrastructure facilities; low quality of service provided by support staff; insufficient awareness of service providers; lack of information about accessible facilities, services, relevant websites; lack of accessible rooms in hotels, restaurants and public places. This paper sets out the measures that local authorities and heads of transport infrastructure enterprises should take to improve accessibility. The measures to ensure the accessibility of various types of transport are disclosed, as are the best foreign experiences in the field of infrastructure accessibility for people with disabilities. It is established that the implementation of the concept of universal design will help solve the problems of service accessibility for clients with disabilities. In order to develop the transport infrastructure, in particular with regard to accessibility, it is necessary to implement the following measures: improve legislation on transport and its accessibility; involve people with disabilities in the development of legislation and policies in the field of barrier-free development; increase investment in the transport sector; professional training of specialists; improve transport infrastructure; introduce innovations; increase control over operators and the quality of services; disseminate information on websites; impose sanctions for breaches of accessibility legislation; inform service users of their rights and obligations.*

Keywords: *accessible tourism, universal design, transportation, infrastructure, inclusive tourism, barrier-free.*

JEL Classification: *L83, R40*

1 Introduction

The prevailing trend in the field of tourism development is to enhance the accessibility of tourism services for all segments of society, to establish suitable infrastructure, and to create a designated tourism product. Consequently, there are 3 million people with disabilities in Ukraine, and this figure is projected to increase in the wake of military operations. In light of this, the state is implementing specific measures to establish conducive conditions for these individuals in various institutions, transportation networks, and other settings. Improving transport infrastructure and raising service standards will contribute to increasing passenger flows, improving the quality of tourism services and their accessibility for people with disabilities. In Europe, tourism for people with disabilities is actively developing, appropriate infrastructure has been created and there are tour operators specialising in tourism for people with disabilities. Inclusive tourism is also beginning to develop in Ukraine, which requires further development and improvement based on the use of advanced foreign experience.

The objective of the present study is to identify measures that could enhance the accessibility of transport provision in the tourism sector of Ukraine, drawing upon advanced foreign experience. In order to achieve the aforementioned goal, the following tasks must be carried out:

– A list must be created which outlines the advantages and disadvantages of the various types of tourist transportation.

– The essence of accessible tourism and universal design must be revealed.

– The foreign experience in the field of accessibility of transport infrastructure for people with disabilities must be revealed.

– Proposals for the development of accessible transport infrastructure must be developed.

The methodological basis of the study is an analysis of literary sources on the topic of the study; analysis of foreign experience in the accessibility of transport for people with disabilities; comparative analysis of the advantages and disadvantages of different types of transport; induction and deduction method for forming conclusions and proposals for the development of accessible transport infrastructure.

2 The Concept of Transport Accessibility of Tourism Services

Tourist trips can be undertaken using a variety of modes of transport, including rail, road, sea and air. The following will consider the main advantages and disadvantages of each mode of transport, as outlined in Table 1.

At present, the principal mode of transportation in Ukraine is road and rail. Nevertheless, during periods of hostilities in Ukraine, airports are not operational. In order to resume civil aviation flights, it is necessary to assess the level of danger in a timely and comprehensive manner. Furthermore, it is also important to take into account the availability of forces and means of protection that will ensure the proper level of safety of life, flights and the functioning of aviation infrastructure.

In the future, transport provision in tourism will develop in the following areas:

1) Improvement of environmental friendliness of transportation, use of environmentally friendly modes of transport;

2) promotion of active forms of recreation – on bicycles, horses

3) accessibility of transport services for people with disabilities;

4) increased attention to travel safety, tourists' preference for safe means of transport

5) improvement of transport infrastructure.

It is evident that accessible tourism is predicated on the development of tourism products and services that are based on the principles of universal design. In the field of tourism, the following types

Table 1 Advantages and disadvantages of different types of tourist transportation

Type of transport	Advantages	Disadvantages
Air	– Speed of route coverage. – High safety. – Lower capital investment in land-based facilities compared to other modes of transport. – High airspace capacity. – High level of service quality and comfort.	– High dependence on meteorological conditions and climate. – Limited geographical accessibility. – High cost of transportation and, accordingly, high tariffs for such services.
Road	– High speed. – Flexibility of the route. – Geographical accessibility. – A significant number of carriers. – Relatively low tariffs for the transportation of tourists over short and medium distances.	– Environmental impact due to pollutant emissions. – High transportation costs.
Sea	– Significant vessel capacity. – Transportation of a large number of passengers. – High level of comfort, full life support of the vessel. – Small capital investments in the construction of waterways and engineering structures.	– Dependence on weather conditions. – Low speed of transportation. – High operating costs for the maintenance of modern vessels.
Rail	– Independence from weather conditions. – High throughput capacity. – Low cost of fares. – High level of comfort during the journey. – High level of security.	– Not all territories have railway connections. – Significant infrastructure maintenance costs. – Inability to deviate from the chosen route.

Source: compiled on the basis of Korzhylov, 2020; Luzhanska et al., 2017

of accessibility should be considered: physical accessibility, communication and information accessibility, and accessibility of services (Ivanova & Senkiv, 2019).

One of the trends in modern service maintenance, which can solve the problems of service accessibility for clients with disabilities, is the implementation of the concept of universal design. Universal design is a design that is convenient for everyone without exception: people with disabilities, elderly people, parents with prams (Ivanova & Senkiv, 2019). It should be based on the following principles: equality of use, flexibility, simple and comfortable use, perception of information regardless of the sensory abilities of users, possibility of errors, low level of physical effort, presence of the necessary size and space when approaching, entering.

The main barriers for tourists with disabilities are (promotion of accessible tourism for all):

– Inaccessibility of transport infrastructure facilities;

– low quality of services provided by support services;

– insufficient awareness of service providers, including staff, of disability issues;

– lack of information about accessible facilities, services, and relevant websites;

– lack of accessible rooms in hotels, restaurants and public places.

Accessible transport is defined as transport that can be used by all people, regardless of disability, age or needs.

3 Analysis of Foreign Experience in the Field of Accessibility of Transport Infrastructure

A survey conducted by CEO Valuable 500 has revealed significant progress in foreign countries in terms of accessibility for people with disabilities. The survey, which questioned 5,000 respondents with disabilities in the UK, USA, Australia, China and Japan, published a list of cities with the best environment for people with disabilities. In the present survey, participants were invited to provide ratings on a range of cities across the globe, with the evaluation criteria including transport connections, proximity to attractions, shops and restaurants, and the availability of information on accessibility. The following cities were identified as the most accessible: Singapore, Shanghai, Tokyo, Las Vegas, New York, Orlando, Amsterdam, Paris, and Sydney (Podolskyi, 2023).

In Europe, the European Networks for Accessible Tourism (ENAT) website has been created to improve the accessibility of tourism information, transport and infrastructure (Bezuhla et al., 2022). ENAT aims to improve the accessibility of all aspects of tourism across Europe. One of the best examples of inclusive tourism is the United Kingdom. Public facilities, buses, trains, museums, etc. are adapted for people with disabilities. There is a tour operator, Tourism for all, which specialises in tourism for people with disabilities. There is an inclusive tourism group (England's Inclusive Tourism Action Group (EITAG)) whose representatives are working to create an accessible environment in England and to introduce best practice in inclusive tourism (Chupina, 2020).

The United States of America has the most developed infrastructure for tourists with disabilities. All buses are equipped with egress platforms that allow disabled people to move around easily.

Accessibility in Israel starts at Ben Gurion International Airport. Every tourist in a wheelchair receives a personal escort when leaving the terminal. In addition, airports have separate customs corridors and passport control windows for tourists with disabilities. Airports have spacious lifts and specially equipped facilities. In Israel, all public buses are adapted for people with disabilities and are equipped with lifts. Tourist attractions are also adapted for visitors with disabilities. For example, the top of the Masada fortress near the Dead Sea is accessible to tourists with reduced mobility, and a special area allows the visually impaired to experience the area tactilely. Tel Aviv has four beaches officially designated for people with disabilities, with facilities adapted to their needs (Chupina, 2020).

Barcelona has a website for people with disabilities, public transport has ramps and the metro has special lifts. Barcelona's beaches have amphibious strollers, ramps and special wooden walkways on the sand.

Antalya Airport (Turkey) has all the necessary facilities for a comfortable flight for people with disabilities. There are desks with Braille for the visually impaired. There are ramps in the area for easy movement in wheelchairs. The entrance and exit doors for people with disabilities are marked with special symbols. The airport has a medical centre, a pharmacy, specially equipped facilities and rest areas. It is possible to order assistance to the aircraft, luggage packing and other services. There is also a separate counter for check-in and customs control with no queue for people with disabilities. All coaches are equipped with seats for disabled people and retractable stairs for easy boarding (Chupina, 2020).

In the Austrian capital of Vienna, the public transport system is regarded as one of the most advanced in the world. It is renowned for its safety,

reliability, cleanliness, punctuality, affordability and accessibility for all users.The transport network is designed with accessibility in mind, with ramps and lifts in place at transport hubs, and low-floor trains, trams and buses, facilitating easy access for people in wheelchairs. Additionally, all metro stations are equipped with lifts to ensure access for people with disabilities, and tactile paving is used at surface public transport stops to assist people with visual impairments.In the event of emergencies or incidents, users receive the necessary notifications through a high-quality audio-information system (Vasylieva & Prylipko, 2020).

Since 2008, Austria has been implementing the "Ways4all" project, which uses passive RFID tags to mark internal routes, barriers and public transport facilities for visually impaired and blind people. This initiative has been designed to assist people with disabilities in navigating the public transport infrastructure using a navigation system. The haptic navigation system works by determining the desired direction based on information about the current location and the final destination of the route. It is possible for users to enter their desired destination on a smartphone prior to departure, at which point the system will calculate the optimal route, taking into account such factors as the user's location, the direction of travel, and the user profile. In Vienna, a uniform system of tickets is used for all types of urban transport. The Vienna public transport operator has equipped vehicles with step-free access and adapted stops to ensure independent use of public transport for people with disabilities (Vasylieva & Prylipko, 2020).

In Dresden (Germany), trams, buses and trains must meet accessibility requirements. The local transport company, Dresdner Verkehrsbetriebe AG (DVB AG), uses modern trams and buses with low floors and audio-visual information systems. The vehicles are equipped with folding ramps, which take an average of 1 minute to set up. Barrier-free bus stops are equipped with a navigation system for the blind, and wheelchair users can board and alight from low-floor trams and buses without external assistance. City railway carriages are also accessible (Vasylieva & Prylipko, 2020; Barna & Korotieieva, 2020).

In Europe there is also a programme to introduce accessible taxis or Eurotaxis. This programme allows people in wheelchairs to use a taxi without having to get out of their wheelchair.

The developed countries of the world are therefore actively implementing measures to improve the accessibility of their infrastructure, transport and various services for people with disabilities.

4 Directions for Improving the Accessibility of Transport Services in Tourism

Local authorities and transport infrastructure managers should take the following measures to improve accessibility (UN Tourism).

1) Collection of information on the accessibility of transport for people with disabilities;

2) training of personnel of enterprises on servicing people with disabilities;

3) removal of barriers for people with disabilities, implementation of universal design principles;

4) organisation of personal assistance services for passengers with disabilities;

5) implementation of accessibility measures for all types of transport

6) provision of up-to-date, reliable and accurate information about the company's transport services and their accessibility.

Consider measures to ensure the accessibility of different types of transport.

Measures to be taken to improve the accessibility of urban transport infrastructure (trams, trolleybuses, buses):

– Adjust the height of the stop to the level of the vehicle;

– availability of ramps and lifting platforms;

– availability of information boards in transport for people with hearing impairments;

– announcement of stops in the vehicle interior;

– installation of external loudspeakers on vehicles to announce the number, route direction, and type of vehicle.

Improving the accessibility of stations (Sydoruk et al., 2020) involves the implementation of several measures. These include the installation of ramps, the application of a bright yellow abrasive material to mark the edges of the steps, the placement of an audible indicator, the removal of thresholds in the doors, the installation of a call button for duty staff, the provision of tactile tiles, designated areas for passengers with disabilities to rest, and the installation of a facility with a universal cabin. It is imperative to have an information board with relevant information for people with disabilities, special services to assist people in servicing. At railway stations, the installation of handrails along the steps is recommended, as well as the provision of elevators. Additionally, the implementation of tactile tiles on the station platform is advised, along with the creation of smooth transitions across the tracks. The installation of relief limiters made of abrasive material on the station platforms is also recommended, with the aim of preventing blind or visually impaired individuals from falling onto the tracks. A particular emphasis is placed on vehicles, which should be equipped

with wheelchair lifts, dedicated facilities, barrier-free compartments, and designated wheelchair spaces. Ukrainian Railways is a participant in the "Business without Barriers" community and has been implementing the "Barrier-Free Railway" program since 2023. The objective of this program is to ensure that passengers have access to high-quality rail transport services without encountering barriers.

Airport accessibility should be implemented in several directions:

– Physical accessibility. No thresholds at the airport, accessible tactile navigation, rooms for adults with children and people with disabilities. Facilities adapted to the needs of people with disabilities and children, accessible showers.

– Smart adaptations. Airports should have elevators and escalators that provide access to different levels of the terminal for people with reduced mobility, as well as buses that take passengers to the plane.

– There should be ramps at the entrances.

– Wheelchairs are required to move people with disabilities around the airport.

– Special staircases without steps to ensure unimpeded boarding and disembarkation of people with disabilities from aircraft.

– Availability of escort services for passengers with disabilities who need assistance in moving around the terminal or going through security procedures.

– Availability of children's elements in airport halls.

– Special information desks where employees assist passengers with disabilities in obtaining the necessary information.

– A separate passport control line for people with reduced mobility.

As of 2020, there were up to 20 airports in Ukraine, of which two-thirds required reconstruction and significant re-equipment. Of these, 16 were of international importance. The largest airports in Ukraine are: Boryspil, Lviv Danylo Halytskyi, Kyiv Zhuliany, Odesa, Kharkiv.

One such innovation in Ukraine is the mobile application DOSTUPNO, which was developed for the purpose of identifying locations that are barrier-free in a particular city. For instance, in Lviv, the Map "Accessible City" has been created, and this map shows the locations of barrier-free establishments and places.

5 Conclusions

As evidenced by international best practice, tourism for people with disabilities is a rapidly expanding sector. In order to improve the accessibility of tourism for all categories of the population, countries are implementing a variety of measures. Ukraine, however, needs to implement best practices in order to increase the level of accessibility of infrastructure and tourism services for people with disabilities. Simultaneously, it is recommended that all stakeholders be involved in the discussion of projects in this area.

In order to develop the transport infrastructure, in particular with regard to accessibility, it is necessary to implement the following measures: to improve the legislation on transport and its accessibility; to involve people with disabilities in the development of legislation and policy in the field of barrier-free development, as well as in decisions concerning their interests; to increase investment in the transport sector; to promote the professional training of specialists working with people with disabilities; to improve, modernise and adapt the transport infrastructure to the transport of people with disabilities; to introduce innovations in passenger services; to increase control over operators and the quality of services; to provide information about services in accessible formats on the websites of companies and organisations; to impose sanctions for breaches of accessibility legislation; to subtitle, translate information messages into sign language; to inform service users about their rights and obligations.

Transport accessibility is an important aspect of inclusive tourism, which opens up new opportunities for people with disabilities.

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