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ZARZĄDZANIE ŚRODOWISKOWE TRANSPORTEM TURYSTYCZNYM

Streszczenie: Aktualnym problemem destynacji turystycznych na całym świecie jest radzenie sobie z rosnącą liczbą odwiedzających przy jak najmniejszym wpływie na środowisko naturalne. Transport ma wpływ na większość sektorów przemysłu, a turystyka nie jest wyjątkiem. Światowy sektor turystyczny doświadczył poważnych zakłóceń w wyniku ograniczeń podróżowania i zamknięcia atrakcji turystycznych. Wiele krajów zatrzymało przybywających podróżników, a prawie wszystkie wprowadziły jakieś ograniczenia. Niektóre kraje wprowadziły całkowity zakaz podróżowania, podczas gdy inne zakazały podróżowania tylko z obszarów o dużej liczbie infekcji. Turystyka jest mocno dotknięta, zwłaszcza podróże międzynarodowe. Pomimo obecnej sytuacji pandemicznej, która oznaczała upadek we wszystkich sektorach transportu, daje ogromne możliwości wzrostu, ale może też być czynnikiem hamującym. Usługi transportowe stają się kluczowym obszarem, podobnie jak wysiłki na rzecz ograniczenia ruchu samochodowego, który nie jest przyjazny dla środowiska. Zarządzanie transportem turystycznym jest niezbędne, aby uniknąć negatywnych skutków ruchu samochodowego. Wdrażanie środków zarządzania ruchem ma pozytywny wpływ na jakość życia, zarówno w kontekście miejskim, jak i wiejskim.

Słowa kluczowe: emisje z transportu, zarządzanie transportem turystycznym, zrównoważony transport

ENVIRONMENTAL MANAGEMENT OF TOURISM TRANSPORT

Summary: The current problem of tourist destinations all over the world is how to handle the growing number of visitors with the least possible impact on the natural environment. Transport affects most industry sectors and tourism is no exception. The global travel sector has experienced severe disruptions as a result of travel restrictions and the closure of tourist attractions. Lot of countries have stopped incoming travellers, and almost all countries have put

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in place restrictions of some kind. Some countries have adopted complete travel bans, while others have banned travel only from areas with a high number of infections. Tourism is heavily affected, especially international travel. Despite the current pandemic situation, which has meant a decline in all transport sectors, it provides great opportunities for growth but it can also be an inhibitor. Transport services are becoming a key area, as is efforts to reduce non-environmentally friendly car traffic. Tourist Transport Management is necessary in order to avoid the negative effects of car traffic. Implementing traffic management measures have a positive impact on quality of life, in both urban and rural contexts.

Keywords: transport related emissions, tourism transport management, sustainable transport

1. Introduction

Transport accessibility can be considered one of the most important factors for the tourism development. Transport is the cause and the effect of the growth of tourism. Accessibility is the main function behind the basics of tourism transport. In order to access sought after destinations, tourists have a range of transportation modes. Car traveling is usually an independent transport conveyance where the traveler decides the route and the length of the trip. Car transport is the dominant mode in world tourism, notably because of advantages such as flexibility, price, and independence [1]. On the other hand, he transport sector is one of the main contributors of environmental impacts due to its role in air pollution, greenhouse gases and CO_2 emissions. In order to reduce air pollution and improve the quality of life, the European Union has set CO_2 reduction targets to be achieved by 2030 [2]. Therefore, it is necessary to focus on promoting greener travel behavior such as low-emission alternative energies and vehicles, public transport, bicycle and car-sharing schemes to reduce congestion and pollution.

2. Emission of tourist transportation

According to the World Tourism Organization transport-related emissions from tourism represent 5% of all man-made emissions and will increase to 5.3% by 2030. Tourism related transport emissions represented 22% of all transport emissions and will continue doing so in 2030 (21%).
Tourism is under signicant threat from the effects of climate change. Continued climate-driven degradation and disruption to cultural and natural heritage will also negatively affect the tourism sector, harm the attractiveness of destinations and reduce economic opportunities for local communities. Destinations such as nature reserves, protected areas and small island states are among the most vulnerable [3].

3. Mode of transport shares for international and domestic tourism

Travel by different modes of transport has different average lengths for each region as these depend on the available infrastructure and the size of the countries in each

region. A more detailed breakdown from international perspective of modes of transport are provided in Tab. 1. [2,3].

Table 1. International tourist arrivals by mode of transport, 2016 and 2030 (million)

Region	Year	Car	Bus	Rail	Air
Europa	2016	230.5	67.6	26.3	204.1
	2030	304.3	89.1	94.7	326.2
Americas	2016	63.0	7.0	2.7	76.3
	2030	68.7	7.4	1.4	116.0
Afrika	2016	3.0	0.2	0	26.3
	2030	2.7	0.2	0	40.4
Asia and the Pacific	2016	76.2	14.6	1.4	156.2
	2030	82.5	13.8	6.5	245.3
Middle East	2016	4.2	2.5	0	13.8
	2030	2.3	7.5	0	17.0

In 2030, aviation is expected to continue playing a key role in international tourism, given the large distances involved. The share of travel by rail is expected to double for international tourism compared to 2016, with this growth coming mostly from Europe.

Estimating domestic tourism globally is difficult exercise due to the existence of different measurement approaches. In fact, the variations in the operational definitions of the usual environment across countries can produce statistically significant differences. The concept of usual environment is specific to tourism statistics and plays a major role, as a tourism trip must take a traveller outside his/her usual environment. For instance, staying at paid accommodation within the usual environment will also not be considered as tourism activity whereas vacation homes are generally considered outside the usual environment. Traditionally, as far as overnight domestic tourism is concerned, official accommodation statistics are a key information source to identify domestic and international tourists. Domestic tourist arrivals by mode of transport are provided in Tab. 2. [2,3].

Table 2. Domestic tourist arrivals by mode of transport, 2016 and 2030 (million)

Region	Year	Car	Bus	Rail	Air
Europa	2016	772.6	208.3	337.8	193.5
	2030	1,116.2	285.8	612.9	287.1
Americas	2016	1,214.3	244.6	63.2	365.7
	2030	1,402.6	281.9	499.2	384.9
Afrika	2016	39.7	25.7	13.0	37.0
	2030	65.2	32.7	21.5	63.0
Asia and the Pacific	2016	1,765.5	880.0	717.3	1,728.3
	2030	3,851.1	1,220.6	1,490.8	3,750.9
Middle East	2016	57.2	16.1	31.8	58.4
	2030	95.1	27.8	52.7	88.1

Emissions from domestic tourism are expected to grow by 21% during the study period from 913 million tons of CO_2 in 2016 to 1103 million tons of CO_2 in 2030.

4. Findings and discussion

Sustainable transport has a positive impact on quality of life, in both urban and rural contexts. European, states and regional policies aimed at promoting greener travel behaviors require a deep knowledge of differing mobility cultures across European regions.

European transport policy forms the interface between key policies. It consists of many important pillars, such as industrial, economic, environmental and social policy. Transport policy is a central element of the Lisbon Strategy, making a significant contribution to the EU's territorial and social cohesion [4].

Although the transport sector is very successful and dynamic from an economic point of view, it is having increasing social and environmental consequences, underlining the growing importance of the sustainable mobility model. However, this model is a duel between two different sets of goals [5].

On the one hand, European transport policy has set a clear goal of ensuring the affordable and efficient mobility of people and goods as a basis for a competitive EU internal market and the free movement of people. On the other hand, there is a need to cope with increased traffic and minimize its effects, such as road accidents, respiratory diseases, noise, environmental pollution and congestion. The societal dimension in terms of employment and working conditions, but which is also linked to passenger rights and transport safety, is the third important pillar of European transport policy [4].

Transport currently accounts for a quarter of the EU's greenhouse gas emissions and this figure continues to rise as demand grows. The European Green Deal seeks a 90% reduction in these emissions by 2050. The modes of transport of air and car are estimated to have CO2 emissions per PKM of similar magnitude.The same holds true for rail and bus, but at a lower level. In Europa, the most of emissions come from surface transport, with cars being the main emitters [6]. Moving to more sustainable transport means putting users first and providing them with more affordable, accessible, healthier and cleaner alternatives.

Improving efficiency across the whole transport system is crucial. Digital technologies enabling automated mobility and smart traffic management systems, for example, will help with efficiency while also making transport cleaner [5].

Tourist Transport Management involves improving transportation options for recreational travel and reducing automobile traffic in resort areas. Tourist travel often occurs in areas that have unique environmental and social features that are particularly sensitive to degradation by excessive automobile traffic. Tourist Transport Management can preserve the amenities that attract visitors to an area, whether it is an historic city center or a pristine natural environment. Tourist Transport Management programs can include a variety of specific strategies to improve transport options, integrate alternative transportation into tourist activities, provide disincentives to drive, and promote alternative modes. The large number of visitors however, has some negative effects. Natural and recreational values become

threatened by increasing traffic congestion and parking problems. Traffic management can prevent and limit these problems [7, 8]
Many destination visitors will use alternative modes if they are convenient, enjoyable and affordable. This requires coordination to insure that visitors' mobility needs are served, and that such travel options are well Marketed. When planning a trip, potential visitors must be assured that they can arrive at their accommodations, access local activities and attractions, reliably and in comfort without a car.
Is important to introduce in real practice some convenient mobility options in order to make the transport in tourism areas more sustainable through following measures:

- increased public transport selling points: hotels, regional transport terminals, travel agencies;
- public Shuttle System for increasing mobility and access to the region's most important attractions while reducing reliance on the automobile;
- shuttle Stops should be designated adjacent to core commercial areas, major motels and resorts, municipal offices, medical offices and parks; passenger shelters, benches would be constructed, adding to the transit system's convenience and attractiveness to both passengers and non-passengers;
- travel by foot or bicycle should need to be facilitated for shuttle passengers at either end of their trip. A key element of a successful transit system is convenient network of sidewalks, jogging paths and bike pathways serving shuttle stops;
- parking policies to disincentives car use to access leisure destinations in urban areas with visitors concentration [9].

To support these plans, innovative tools should be implemented in which traditional transport options can take on new value (Tab. 3)

Table 3. Replacement of traditional transport options

Options	Description
Bus Rapid Transit	an innovative concept that enables to use buses and provide a metro like service
Public Bicycle Schemes	an attractive scheme that helps to revive the value of bicycling in many areas
Call a bike	a system similar to a public bike system but users have to call a service to get access to a bicycle
Unified ticketing	a central ticket system for all means of transport in a region, this could be more than a usual city limit
E-Car sharing	using e-cars in car sharing

5. Conclusions

Moving to more sustainable transport means putting users first and providing them with more affordable, accessible, healthier and cleaner alternatives. A key objective is to boost considerably the uptake of clean vehicles and alternative fuels. Achieving the ambitious climate goals also requires a shift to more sustainable transport modes. Benefits of sustainable transport include reduced traffic congestion and parking problems, road and parking facility cost savings, improved community livability and

support for strategic land use objectives, such as preservation of environmental and cultural resources, increased transportation choice particularly for non-drivers, improved walking and cycling conditions, increased road safety, reduced impacts of tourist travel on residents and reduction of emission load.

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