Possibilities of Sustainable Mobility and Tourism Management in Large Environmentally Sensitive Areas in the Czech Republic

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Abstract

Growing tourism in environmentally protected areas brings pressure not only on nature and ecosystems, but also on their management. This paper focuses on main conflicts connected with transport and mobility of tourists and environment protection in these areas, and tools to solve the identified problems. The research is based on data obtained from structured interviews with representatives of administrations of 26 PLAs (protected landscape areas) and 4 NPs (national parks) in the Czech Republic. Another 45 key stakeholders were interviewed in three case study areas (PLA Jizerské hory, PLA Moravský kras, and NP České Švýcarsko together with PLA Labské pískovce). Our results indicate that sustainable mobility of visitors and sustainable tourism have a high potential, but that a system supporting relevant economic activities, together with good information and promotion, should be created. The paper also suggests mobility plans for these areas as a promising strategic tool.

Keywords

Tourism, mobility, large environmentally sensitive areas, transport, management, ESAs

JEL classification: L83, Z30, Z38 **Accepted: 15 December 2021**

Introduction

Tourism and transport have been traditionally considered separately – mobility has been more a prerequisite than an integral part of the tourist activity (Municipality of Nicosia, 2020). However, to reach sustainable development, it is necessary to coordinate planning for visitors and sustainable mobility planning. This is even more important in large environmentally sensitive areas with their strict emphasis on nature protection.

Tourism had been growing sharply especially before the COVID-19 pandemics. Worldwide, international tourist arrivals rose from 439.4 million (1990) to 1,326 million (2017) according to the UNWTO (2018). In the Czech Republic, the number of arriving tourists increased from 20.11 million (2003) to 34.70 million (2017); see Roser (2017). Rural and natural areas have been affected by this increase as well; they remained visited by tourists even during the COVID-19 pandemics, when the movement of people was minimized and especially international tourism was interrupted (tourism worldwide dropped to the level of 1990 during the pandemic; UNWTO, 2020). Since nature areas provided a possibility for safe and active leisure, domestic tourism thus increased (Gregorová, 2021).

Tourism relates to a range of activities which have negative impacts on the environment. They are connected with movement of people and construction of infrastructure such as roads and parking lots, and of tourism facilities, including hotels, restaurants, shops, etc., which degrade biodiversity and produce pollution and waste. In this way, tourism development can paradoxically gradually destroy environmental resources on which it depends.

The World Tourism Organization (UNWTO, 2004) introduced a directive and a concept of sustainable tourism. Such a form of tourism respects optimal use of environmental resources, which are a key element of tourism development, preserves basic ecological processes and helps in preserving natural heritage and biodiversity, respects the socio-cultural authenticity of host communities, preserves their cultural heritage and traditional values, and constantly monitors impacts, introducing necessary preventive and/or corrective measures.

The UNWTO (2001) also formulated the Global Code of Ethics for Tourism (GCET). Article 3 "Tourism as a factor for sustainable development" states that efforts should be made to distribute flows of tourists and visitors in time and space, and tourism activities and infrastructure should be designed to protect natural heritage (ecosystems and biodiversity) and preserve endangered species. Nature tourism and ecotourism are then supported and recognized as a suitable type of tourism, as long as they respect the natural heritage and the local population by complying with the capacity of the places visited.

Theoretical basis

Negative impacts of tourism are usually divided into three main categories (Veríssimo et al., 2020): environmental, socio-cultural and economic. Environmental problems include above all threats to local species and geological localities, greenhouse gas emissions and air pollution; socio-cultural

involve transport, lack of space and overcrowding; and economic cover deterioration of urban security and cleanliness (e.g., crime, garbage) and land use problems.

Kotecký (2019) provides examples of the conflict between economic and environmental priorities. He points out that 6 places in Bohemian-Saxon Switzerland and Elbe Sandstones belong to the top 10 most visited Czech natural destinations.

Stejskal (2011) focuses on ecosystem services provided by large, protected areas and negative impacts especially of mass tourism on them. Ecosystem services include the provision of resources (food, water, wood, fibres, raw materials for pharmaceutical preparations, etc.), regulatory services (the self-cleaning ability of water in watercourses, influencing of climate, floods, waste, etc.), support services (soil formation, photosynthesis, nutrient cycling) and cultural services (recreational, aesthetic, spiritual benefits, etc.); see Reid et al. (2005).

The negative impacts are multiplied when connected with overtourism (e.g. Koens, 2018; Oklevik, 2019; Gregorová, 2021; Peeters et al., 2018). Drápela et al. (2021) define three dimensions of overtourism: objective (e.g., parking in in appropriate places, damaged natural sites, garbage pollution), subjective (local residents: loss of local authenticity and anger at tourists; tourists: feeling of overcrowding tourist destinations, feeling stressed), and temporal (tourist season: duration and period of the main tourist season).

The core and principles of sustainable tourism have been studied by various authors (e.g., Kostic and Toncev, 2014; Higgins-Desbiolles, 2017; Librová, 1994). Librová (1994) distinguishes between a "hard" and "soft" form of tourism. The destructive effects of hard tourism relate to the expansive principle of this tourism type. The geographic expansion is connected with increasing sensitivity of tourists to cleanliness and value of the environment. Ryglová (2011) focuses on the economic aspects of hard tourism and emphasises that it usually needs large-scale "hard" investments, and its main objective is profit regardless of the environmental, social and cultural conditions of respective tourist destinations.

A bulk of psychological and sociological literature analyses, why people prefer hard tourism and its services. Ankomah et al. (2001) identified socio-psychological processes that describe the destination selection process. They include motives, benefits, values, attitudes and personality characteristics. Then there are various situational limitations such as perceived distance, budget, time and health. The various stimuli of the destination cannot be overlooked either.

Possibilities to minimise impacts of tourists on protected areas are suggested by Marion and Reid (2007) or Zelenka et al. (2013). In his report for the International Union for Conservation of Nature (IUCN), Philips (2002) suggests a new approach to tourism development in protected areas and provides an overview of case studies of good practice throughout the world. A list of strategies against overtourism was prepared by Koens (2018). However, during an interview which we conducted with an expert in the NP České Švýcarsko, an opinion was mentioned that the crowding phenomenon does not necessarily significantly exacerbate the negative effects of human presence on the natural environment, compared to, for example, periodic passages of individual tourists through a particular locality. Milano (2018) formulated his 5D strategy, which should proactively minimise negative impacts of tourism and fight overtourism:

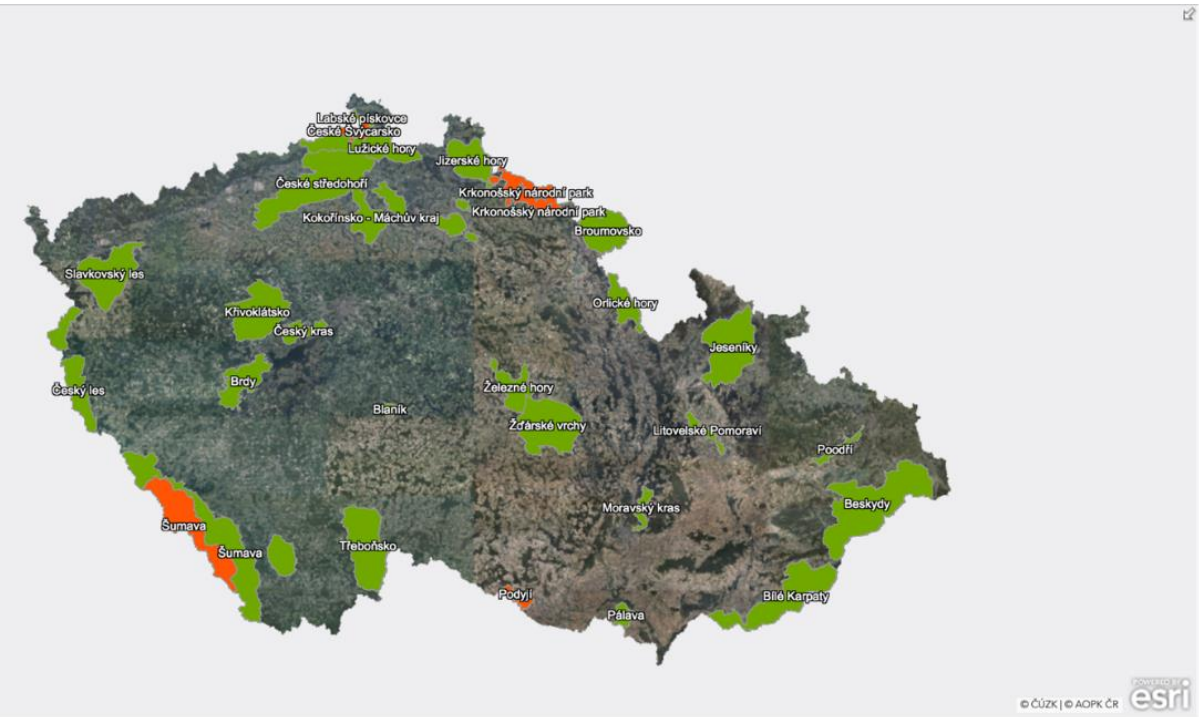
- deseasonalization (extension of the seasonality of the territory),
- decongestion (prevention of congestions and high intensities of traffic),
- decentralization (spreading of tourists throughout the whole area, reduce tourist concentration at a few highlights),
- diversification (offering diverse services), and
- deluxe tourism (offering services in environmentally sensitive areas as luxury services).

According to Janeček and Štemberová (2016), the adaptation of sustainability ideas in the tourism sector began in the 1990s. The approach to the creation of sustainable tourism must be conceived strategically, based on high-quality strategic plans for tourism development together with involvement of local people in their development and implementation. Dušek (2020) suggested further measures, based on the regulation of visitors and economic activities in these areas, but also on better use of the Smart City and Smart Region concept, or changes in marketing and promotion. Focusing on the transport sector, the main sector document is the Transport Policy and, at the local level, so-called Sustainable Urban Mobility Plans (Jordová and Brůhová Foltýnová, 2021). An adaptation of these strategic documents – mobility plans – to tourism in urban areas was suggested by the InnovaSUMP project (see footnote 1). Our research focuses on possibilities to use these plans to regulate tourism and mobility and support sustainable development also in large environmentally protected areas.

Methodology

Large environmentally protected areas are distinguished by the IUCN (2021) into the following categories: Ia. strict nature reserves, Ib. wilderness areas, II. national parks, III. natural monuments or features, IV. habitat/species management areas, V. protected landscapes/ seascapes, VI. protected areas with sustainable use of natural resources. In our research, we focus on two of them which are of particular interest among tourists: national parks (NP, IUCN category II) and protected landscape areas (PLA, IUCN category V). Four NPs and 26 PLAs have been established in the Czech Republic (see Fig. 1).

Figure 1 Map of national parks and protected landscape areas in the Czech Republic (Source: AOPK, 2020)



This paper aims to provide an overview of the state of the art of transport and mobility services and their impacts on environmentally sensitive areas in the Czech Republic. We further identify possible tools to minimize the negative impacts and strengthen development towards sustainable tourism and mobility in these areas.

Comparison and overview analysis of NPs and PLAs in the Czech Republic

The data were collected using structured interviews with representatives of all Czech national parks (N=4) and protected landscape areas (N=26). They took place via telephone and e-mail between May and August 2020 (this form was preferred as anti-covid measures were still in place).

One telephone survey lasted between 20 and 60 minutes; to make it more efficient, the respondents were sent questions by e-mail in advance. The questionnaire included the following topics: number and structure of visitors; implemented regulation measures; maximum capacity of the territory; organized tourism; accessibility by train / bus / bicycle; parking options and prices; transport and mobility-related problems and services provided throughout the area; and available studies regarding environmental impacts of transport and tourism. The collected data were organized in a database and analysed using qualitative methods.

Interviews with key stakeholders in case study areas

To make a deeper analysis and to get opinions of different stakeholders, we further focused on case study areas. They were chosen based on their representativity and data availability so that they represent different kinds of recreational activities, protected areas and types of ecosystems.

Key local stakeholders in each case study area were chosen from three groups: state administration representatives, destination services and service providers (local business). We identified them using questioning of local experts and the snowball approach. In total, we collected data from 45 respondents (see Table 1).

Table 1 Structure of respondents (Source: Own research)

	State administration	Destination services	Service providers	Total
NP České Švýcarsko + PLA Labské pískovce	9	2	7	18
PLA Jizerské hory	9	1	7	17
PLA Moravský kras	6	1	3	10
Total	24	4	17	45

The interviews took place between October 2020 and April 2021 using face-to-face or online (videoconference) forms. The average time of one interview was 65 minutes. The following topics were covered: perception of the protected area and necessity to protect it; problems connected with transport and tourism in the area; priorities for further development of tourism in the area; barriers and drivers of sustainable tourism development; feasibility of different regulation measures; treatment of data about tourists and transport; and promotion of the area.

Results and discussion

Conflict between tourism and nature protection and transport services provided in protected areas

Good knowledge of the main problems to be solved is a necessary step for planning of sustainable development of an area. The main problems in the Czech NPs and PLAs reported by the respondents can be divided into three categories: related to tourist behaviour, related to transport and mobility, and problems at the strategic and planning level. Table 2 summarizes problems reported by key stakeholders in our case study areas. In parentheses, we specify the frequency of mentioning the particular problem. Not surprisingly, most of the problems occur in all three case study areas; however, some location-specific problems arose during the interviews as well. The common problems related to tourist behaviour generally are closely connected to non-compliance with rules. Similarly, transport-related problems cover illegal parking, but also missing infrastructure (parking, walking, cycling) and insufficient public transport services. The stakeholders also mentioned frequently insufficient coordination of tourism services, missing strategies and low knowledge of the sustainability concept and alternatives regarding sustainable tourism.

Table 2 Main problems encountered in large environmentally sensitive areas (Source: Own research based on data from structured interviews in 3 case study areas)

Tourist behaviour	Transport-related	Strategic
In all 3 areas		
• **Unwillingness to control behaviour / accept rules (14)** • **Cumulation of tourists in specific places (14)** • **Unpermitted entry (walking, driving and cycling) (8)** • **Waste (4)**	• **Inadequate parking capacity (30)** • **Parking outside parking places (10)** • Insufficient public transport (connection, frequency, number of services per day, no service outside the season) (7) • Insufficient public transport (connection, frequency, number of services per day, no service outside the season) (7) • Transport safety (esp. where separate pedestrian infrastructure is missing) (6) • Missing cycling infrastructure (4)	• **Missing sustainable mobility strategy (13)** • Non-existing alternative services (7) • Tourism coordination (7) • Missing sustainable tourism strategy (6) • Missing infrastructure and services for deseasonalization (6) • Decision-makers' lack of understanding of the sustainability concept (4)
In 2 of the 3 areas		
• **Insufficient accommodation capacity (4)**	• **Missing pedestrian infrastructure (10)**	
In 1 of the 3 areas		
• **Illegal fireplaces (1)** • **Electromobility in areas where fast traffic is inappropriate (1)**		• Missing methodology for calculation of maximum capacity (1)

Public transport is provided in most large protected areas in the Czech Republic; however, there are some exceptions. Our data from structured interviews with representatives of all Czech NPs and PLAs reveal that areas with poorer access to train connections include the Krkonoše National Park and PLA Pálava, while PLA Slavkovský les has poor bus access. In some PLAs and NPs, cycle buses are supported (e.g., PLA Český les, PLA Jeseníky, PLA Český ráj, PLA and NP Šumava, PLA Železné hory). Some mountain areas offer ski buses during winter, such as the Krkonoše or Šumava Mountains. Border areas also offer cross-border connections, such as PLA Lužické hory – Žitavské hory. However, car traffic dominates as the main means of transport to and around these areas.

In the PLA and NP Šumava, there are so-called green buses commissioned by the Plzeň Region, which pass through the territory 5 times a day during the summer holidays, including connections to two border crossings. In the České Švýcarsko National Park, there is the so-called National Park Railway (Dráha národního parku) operated by České Švýcarsko, o.p.s. In 2020, an inter-regional tourist bus line was established connecting PLA Lužické hory, PLA Labské pískovce and the České Švýcarsko National Park with the possibility of transporting bicycles (regularly from May to October).

New mobility services have appeared in recent years in most of the NPs and PLAs, such as rental of bicycles, scooters, quad bikes and other motorized or non-motorized vehicles. There is also a noticeable increase in electromobility (electric bicycles, e-scooters and other e-vehicles) in virtually all areas. Other alternative mobility services include horseback riding, tourist trains, ballooning, airplanes, shipping, cable cars, mountain lifts or cycle buses. However, the new mobility services also generate substantial problems in protected areas, as is summarized in Table 3. They include pollution and waste, movement outside of bordered areas and conflicts with car traffic.

Table 3 Specific transport-related problems (Source: Own research)

Problem	Description	Example area
Ski mountaineering	Sharp increase in users Off-road skiing	Beskydy Mountains
Missing toilets	Pollution and waste	Jeseníky Mountains (Rejvíz)
Night skiing	Using lights disturb animals	Jizerské Mountains
River rafting and shipping	Overcrowded rivers, waste, noise	Ploučnice and Jizera Rivers
"Overcycling"	Too many cyclists create "trains" of cyclists which block motorized traffic	Třeboňsko

Possibilities of sustainable tourism development

Alternative concepts to mass tourism are still not generally known among Czech stakeholders. That is why we asked the key actors in our case study areas how they understand different concepts of alternative tourism, particularly "**sustainable**", "**slow**" and "**soft**" **tourism**, and whether these alternatives are suitable for their area.

There was a consensus among the stakeholders that **sustainable tourism** should look for a balance between locals, tourists and nature and emphasize tolerance, respect and communication. Services in the locality, such as accommodation capacities and other infrastructure, should grow gradually and restrictions in order to protect the environment are positive for the area. Sustainable tourism does not burden (deplete) natural resources, mobility is also often associated with exploring non-motorized transport (while respecting the capacity of the area).

Fewer respondents were able to explain what "**slow tourism**" is. Those who answered perceived it as the opposite of mass tourism for its slowness, softness, distribution of tourism throughout the year and restrictions on entry to the most important localities. Slow tourism does not necessarily mean to move slowly but to use more services to experience the place. As it does not look for masses of tourists, infrastructural interventions are usually in harmony with nature.

Soft tourism was perceived as a gradual development of the area, in which other aspects are also addressed (e.g., requirements of residents); there is no need to build facilities for tourists, just to take them to interesting places. Soft tourism has been described in many possible forms: non-motor tourism, guiding, self-guiding, experiential workshops, visiting crafts, recommending local products, walking and cycling holidays.

The theoretical anchoring of these concepts and the search for their subjective definitions enabled the respondents to obtain a general overview or awareness of these types of tourism. Almost all the respondents perceived a sustainable type of tourism as suitable for their areas.

Regulatory tools

Deseasonalization

The stakeholders often suggested deseasonalization (see Milano, 2015) as a solution to high tourist mobility concentrated in the main season. Especially stakeholders from tourism services would welcome an extension of the season due to the economic benefits, as they often must subsidize the off-season. Extending the season would also help alleviate the saturation of congested sites, which are important for the conservation of biodiversity in environmentally sensitive areas. However, there are limitations imposed by the weather (esp. accessibility of areas during winter) and other factors.

Nowadays, the peaks of visitor numbers in the PLA and NP are mainly influenced by public holidays and the school holiday season: spring (spring holidays, Easter, May holidays), June (school trips), summer holidays, autumn holidays, Christmas and New Year's Eve.

An example of the characteristics of the use of the PLA in connection with tourism was expressed by the representative of PLA Žďárské vrchy administration: *"The composition of visitors to the PLA varies. Under favourable snow conditions, a large group consists of cross-country skiers, who dominate from about January to March. Cyclists are starting to prevail after snow gets off the roads and are more concentrated in the period from May to October. Hikers are a smaller group than cyclists. Hikers move in the area practically all year round with the main concentration of visitors from May to October, like climbers. Thanks to a dense network of marked trails and interesting tourist destinations, Žďárské vrchy are attractive for families with children, both during the summer and spring holidays. In the period before the summer holidays, school trip groups appear, followed by children's summer camps during the holidays. In the autumn, the rates decrease significantly and again the day trips or weekend stays focus on hiking and bicycling."*

Visitor regulation

The main regulation in environmentally sensitive areas in the Czech Republic is stated by law (Act No. 114/1992 on Nature Protection). Furthermore, other types of regulation are used, such as railings, signposts, direction signs, marking of tourist routes and cycle routes and bans on entry of motor or non-motor vehicles. Specific regulatory tools mentioned during interviews with PLAs and NPs representatives are summarized in Table 4.

The maximum capacity of visitors is not specified in any document or analysed area, the PLA and NP administrations do not even know how to determine it (there is no common methodology). The

representative of PLA Broumovsko stated, "*There is a kind of subjective estimate, when to a certain extent people do not feel oppressed, the breakthrough can be around 800 visitors per hour passing through one place. Then there is a situation where people are fleeing the place.*"

Table 4 Examples of visitor regulation (Source: Own research)

Visitor numbers are additionally regulated as follows:	
Numbers of parking spaces	e.g., PLA Český kras
Restricted entry outside marked trails	e.g., some NNR in PLA Bílé Karpaty
Ordered closure of trails or areas	e.g., Apolena u Trosek, Skály na Sokolu, Javorový důl – all in PLA Český Ráj
Temporary closure of some sites due to nesting birds or bats	e.g., PLA Labské pískovce and NP České Švýcarsko, PLA Moravský kras
Complete closure of some trails without replacement	historically, e.g., in PLA Český ráj
Visitor infrastructure	e.g., PLA Křivoklátsko – educational trails, bridges, railings, lookouts
Fire hazard – movement restricted to marked trails	e.g., PLA Labské pískovce and NP České Švýcarsko
Site limits	e.g., PLA Moravský kras – limited entry into cave system
Restricted access outside trails	e.g., NNR Polanská in PLA Poodří – barriers for walkers and cyclists
Fencing of most vulnerable sites	e.g., NNM Křížky in PLA Slavkovský les because of badly downtrodden low shrubs
Spontaneous regulation by local communities	e.g., PLA Třeboňsko – hatred towards cyclists – cycling "trains" on local roads
Sports restrictions (e.g., climbing) due to nesting birds	e.g., PLA Žďárské vrchy, PLA Labské pískovce, PLA Český ráj
Infrastructure condition and access	e.g., PLA Železné hory

Parking

Parking is a big problem not only in urban areas, but it turns out, also at starting points for visiting PLAs/NPs. Parking areas in PLAs are usually set up and operated by towns and villages. Addressed NP and PLA representatives mentioned a range of problems associated with parking; they are described in Table 5.

Table 5 Problems associated with parking in PLA and NP (Source: Own research)

○ Parking on forest tracks, inside villages and towns in front of local people's houses (potential violation of parking bans, e.g., PLA Třeboňsko – parking by sand quarry lakes, PLA Pálava – historic centre of Mikulov)
○ Overstraining of parking areas most perceptible on busiest days and in winter (e.g., PLA Jizerské hory – Bedřichov, PLA Jeseníky – Červenohorské sedlo)
○ Insufficient parking capacity is a limiting factor for tourism
○ Some PLAs have tried to identify areas for outside parking– e.g., PLA Český Ráj, PLA Labské pískovce and NP České Švýcarsko, PLA Lužické hory)
○ Parking area analysis unavailable for areas as extensive as PLA and NP
○ Some parking areas are private, e.g., locals in PLA Broumovsko sometimes let tourists park on their land for a fee; PLA administration may order such areas closed based on the Nature Protection Act
○ Problem of "maintenance-free" forest parking areas (paved areas in forest) in that they often turn into illegal dumps or are littered

In PLA Brdy, due to its recent establishment and uniqueness (former military district), parking areas are created at the borders of the PLA, and entry into the PLA by car is normally prohibited. A similar situation is in the Podyjí National Park (the smallest NP in the Czech Republic), where parking areas are located around the perimeter of the park. In PLA Moravský kras, there are several parking lots with a connection to a tourist train/bus or cable car. Visitor car traffic is thus limited to some extent by these mobility options.

The parking fee can be an effective regulatory tool for visitor numbers. The amount of the fee should be motivating, but not discouraging (too high fees can motivate drivers to search for other – cheaper or free – parking spaces, often outside official parking lots). However, the interviewed stakeholders usually did not perceive parking fees as a tool of regulation. Some municipalities welcome parking fees as lucrative revenue for their budget. The following table illustrates the variability of fees in various Czech PLAs and NPs.

Table 6 Prices of parking in PLA/NP (spring 2020) (Source: Own research)

Example prices of parking in some PLA and NP	
100-200 CZK per day	
PLA Jizerské hory	Bedřichov: 100 CZK a day
PLA Český kras	Svatý Jan pod Skalou: 100 CZK a day, Karlštejn: 100 CZK a day
PLA Jeseníky	Hvězdárna: 100 CZK a day
PLA Litovelské Pomoraví	maximum daily charge 100 CZK a day
PLA Labské pískovce and NP České Švýcarsko	around 100 CZK a day depending on area, Hřensko: 150 CZK a day
PLA Broumovsko	maximum daily charge 150 CZK a day
PLA and NP Šumava	maximum daily charge 100–150 CZK a day

More than 200 CZK per day	
PLA Křivoklátsko	buses 200 CZK a day
NP Krkonoše	Horní Mísečky: 300 CZK a day
PLA Broumovsko	buses 350 CZK a day
PLA Jeseníky	Ovčárna 400–500 CZK a day*
NP České Švýcarsko	Hřensko: buses 600 CZK a day

* The place can also be reached by a special bus for 50 CZK per person

Conclusion

Large environmentally protected areas in the Czech Republic have been facing a sharp increase in the numbers of visitors and the associated growth in negative effects of tourism, such as high car traffic intensities, related emissions, waste and noise. This increase also continued during the COVID-19 pandemic, when domestic visitors dominated. This paper provides an overview of the state of the art of transport and mobility in all large environmentally sensitive areas (NPs and PLAs) in the Czech Republic and discusses the potential to support sustainable mobility and sustainable tourism in these areas.

Tourism and mobility are strictly connected, and transport and tourism authorities must work on a comprehensive understanding of the mobility challenge and on vertically and horizontally integrated solutions. Our analysis shows that almost all large, protected areas address the issue of excessive car traffic, which creates associated problems such as overcrowded parking lots, lack of parking spaces, non-compliance with entry bans and illegal parking in forests and on meadowlands. Furthermore, a range of new mobility services have appeared recently in most of the analyzed areas. They cover non-motorized modes or electromobility; however, they should be supported very carefully as they might also have negative effects on the environment and on safety of tourists.

Based on the results of interviews with key stakeholders in three case study areas, as well as structured interviews with representatives of all Czech NPs and PLAs, we can summarize that different stakeholder find nature protection in the respective areas important. However, they admit that protection should be in harmony with sustainable economic activities and sustainable tourism. According to them, sustainable tourism has a high potential in the studied areas, but it is necessary to set up a support system for these activities. It is also necessary to unify the definition and understanding of the concept of sustainable tourism development. Furthermore, responsibilities and policy instruments should be better defined.

The stakeholders call for better distribution of traffic in the areas (even outside the best-known tourist areas or into the "hinterland" beyond the PLA and NP) and better systematic information for visitors. Different tools should be used, including restrictive measures (so-called push measures) and motivating measures (so-called pull measures) and, above all, their combinations. However, the push tools already in use such as parking fees mostly do not have a real regulatory effect.

Mobility management offers a strong instrument for managing and planning mobility: a mobility plan. In the Czech Republic, there is not much experience with mobility plans, with the exception of large urban areas and some particular institutions. Following the European legislation, above all the 2013 Urban Mobility Package (COM(2013)913 final), which sets out a concept for Sustainable

Urban Mobility Plans, Czech cities over 40 thousand inhabitants have had to develop their Sustainable Urban Mobility Plans (SUMPs). At the end of 2020, 40 SUMPs had been developed by Czech cities (Jordová and Brůhová Foltýnová, 2021).

There are some initiatives to create mobility plans for tourism in urban areas in Europe (e.g., the European project InnovaSUMP). However, there is no experience with mobility plans in environmentally protected areas. They require a strategic approach based on the formulation of a sustainable mobility vision. Mobility must be approached in a comprehensive way in close connection with further tourism development and supply of services for tourists.

The potential, structure and methodology of such plans for nature areas require further research. We plan to collect and analyze more data on tourist behaviour (using sociological surveys and big data analyses) and good practice from Czechia and abroad. Our aim is to prepare guidelines for sustainable mobility plans for large environmentally sensitive areas in the Czech Republic.

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