

MODERNIZING THE TRANSPORT SYSTEM IN BULGARIA IN ORDER TO PROMOTE TOURISM DEVELOPMENT

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Abstract: *The scope, the role and the essence of the relationship between tourism and transport are presented conceptually and in terms of their modern aspects, as well as the impact of that correlation upon the development of tourist destinations. We analyse the findings of a quality assessment of the different types of infrastructure in Bulgaria and in several countries which are our immediate rivals as tourist destinations. Evidence is provided to support the thesis that the transport infrastructure in Bulgaria needs to be improved to meet the demands of tourism, including by promoting easier access and mobility, and thus contribute to the image of the country as a sustainable destination. Key aspects for providing more efficient public transport in tourist destinations are identified. The paper also pays attention to strategic transport planning that should meet tourism demands and to improving the coordination between the institutions in both sectors in order to achieve visitors' satisfaction, especially in terms of transportation.*

Key words: *tourism; transport; multimodal and intermodal system; transport facilities; sustainable transport.*

JEL: L83, L 91, R41.

Introduction

Transport is essential to tourism development as it may limit or encourage tourist flows to a particular destination; facilitate or hamper the interaction between tourists, local communities and tourist attractions. Accessibility and good transport connections are therefore major indicators of the tourism development capacity of a region. An efficient transportation system contributes to visitors' satisfaction and the economic viability of local transportation systems by serving both local residents and tourists.

Transport provision and tourism are intrinsically related. Transport is a key factor for tourism development as it takes tourists to the destination they have chosen and ensures their mobility to the sites and attractions they want to visit. The location of transport hubs, the capacity, efficiency and connectivity of a transport network are essential to the development of any tourist destination. Providing convenient transport which meets tourist demands is hence a key component of successfully implementing a tourism policy.

Hence, the *object of our research* is the transportation system in Bulgaria within the context of tourism development, and the *subject* is the opportunity for improving its condition in line with contemporary trends in transport development. The **main objective** of this paper is to identify, substantiate and briefly present efficient transport solutions which could be applied to Bulgaria's transport system in order to modernize tourism supply and enhance and improve tourist experiences.

To accomplish our objective, we seek the solutions to the following *research tasks*:

- Present systematically theoretical findings about the collaboration between transport and tourism;
- Analyse the quality of the transport system in Bulgaria and compare it to the transport systems in the countries which are our immediate rivals as tourist destinations;
- Suggest feasible solutions for improving the transport system and facilitating the movement of tourists in Bulgaria.

The development of the research paper follows the research framework we have presented. In terms of methodology, we employ the systematic approach which studies the correlations between the tourism and transport systems. We also employ inductive reasoning, deduction, comparative analysis, content analysis, etc. The data sources for our analysis are official publications of the National statistical institute, Eurostat, the World Economic Forum and the Organisation for Economic Cooperation and Development.

1. Conceptual Dimensions of the Relationship between the Transport System and Tourism

The fast growth of international tourist flows, new trends in and patterns of consumption, the digitisation of economy, security issues and the need to adapt to climate changes are some of the major challenges which the tourism sector faces today. A transport system is an integral element of the tourist experience at a destination and its development is closely related to trends in tourism development. Hence, an *active, innovative and tourism integrated policy* needs to be implemented so that tourism could become a competitive sector which contributes to economic growth and sustainability.

Similar to any other system, a transport system is a set of related elements which interact with each other. In Bulgarian economic literature, a *transport system* is defined as 'a facility consisting of the means and routes which are necessary for the spatial movement of passengers and goods through the interconnected and coherent operation of different modes of transport and certain uniformity of the technological process of transportation' (Bakalova, Ikonomika na transporta 2010).

The transport system of a country is perceived as a vital component of its tourism development, therefore ensuring the necessary transport might transform sites which have attracted little tourist interest into prospering tourist destinations (Khadaroo & Seetanah, 2008 (29)). *A transport system which is appropriate for developing tourism* is based on 'the performance of and the connection between transport hubs, roads and terminals; it facilitates tourists movement to and out of a destination and provides transportation services within the destination itself' (Khadaroo & Seetanah, 2008 (29)).

The development of transport systems is based on the correlation between transport supply, which depends on the capacity of the developed transport network, and the transport demand arising in result of the mobility needs at a particular tourist site. Transport networks have their capacity and territorial scope determined by the specific features of the environment – transportation costs, capacity, efficiency, reliability and speed. In general, transport systems consist of a complex combination of correlations between demand, service points and the networks which facilitate the movement of passengers and goods.

The choice of transport modes in tourist travel depends on a number of objective factors and the subjective preferences of tourists. A good starting point for research is Alfonzo's model (quotation from Nutsugbodo, 2018) which was developed based on the Maslow's hierarchy of human needs. Similar to Maslow's model that arranges human needs into a hierarchy comprising physiological needs, safety, love/belonging, esteem, and self-actualisation, Alfonzo's theory arranges the factors/needs that influence travel decision-making into a five-level hierarchy comprising feasibility, accessibility, safety, comfort and pleasureability. Clearly, the model depends on demographic factors, such as age, gender, education and occupation, which determine those needs. The income level, for example, will determine whether a traveller can meet the need of comfort which is a higher level need in the hierarchy.

It is difficult to identify transport as *a separate functional entity*. That difficulty is due to a number of factors: tourist transport comprises a different transport modes, spatial models and types of ownership; transport may be *exclusively* used for tourism purposes (cruises, tourist buses, chartered flights); *partially* for tourist purposes (scheduled flights, taxis); *occasionally* for tourist purposes (local public transport at tourist destinations during the high season) or *never* for tourist purposes (private or public transport modes). Transport modes may also be *explicitly hired for for tourist purposes* (chartered airlines, tourist buses) or they be used for tourist purposes *without indicating this* (car

rental and private cars). Furthermore, tourist transport is a synthesis of two spheres of management since tourism and (international) transport are subject to the governance and regulation of more than one country.

These analytical and conceptual issues relate to a number of practical, administrative and planning concerns, including those of covering the costs for introducing innovations into the transportation system.

The different roles of transport as a key enabler of tourism may be summarised into: *first*, it connects tourism generating regions to destinations; *second*, transport ensures accessibility and mobility at destinations; *third*, it facilitates the internal movement of visitors as an element of their tourist experience (cruises, bus tours, yacht trip, etc.); *fourth*, transport may be a major element of the attraction or a tourist experience in its own right (transport museums, transport-related events, helicopter and spacecraft flight simulations, etc.).

According to statistical data, the relative share of passenger transport in *total tourism consumption* is nearly 22% (Table 1). On average, domestic tourism accounts for 77% of global tourism consumption, while international tourism accounts for 23% of it.

Table 1. Tourism consumption by type of product

Type of tourism product	Percentage of total tourism consumption
Accommodation	18
Food and beverage	17
Passenger transport	22
Travel agencies and other services	4
Culture, sports and recreation	7
Other services	32
Total:	100

Source: OECD. Tourism trends and policy priorities, 2017. <https://www.oecd-ilibrary.org>.

In terms of the *type of transport used*, railroad and water transport have a strategic role, the number of cruises rising by 68% over the last decade and being approached as a premium-class holidays. Airport transport dominates international tourism. According to data provided by the World Tourism Organisation, more than half of all international trips (54%) were made using air transport, followed by road transport (39%), water transport (5%) and railroad transport (2%). In the last few decades, the annual growth rate has been registered by air transport (5.2%), compared to a 3.4% annual growth rate registered by road/water transport.

There is an upward trend in the use of air transport in Bulgaria as well (Figure 1).

The registered increase in the number of passengers using Bulgarian airports is the accession of the country to the European Common Aviation Area in 2006 and the performance of Bulgarian airports in a liberalized market environment. The Bulgarian aviation market for passenger transport is the fastest developing one in Central and Eastern Europe. The geographical location of the country gives it an advantage over most EU member states, including in terms of serving emerging markets in Asia. Some of the most major guidelines for making the most of that potential are adapting the airport infrastructure to contemporary market requirements, entering new markets, improving the quality of services and introducing up-to-date safety and security standards.

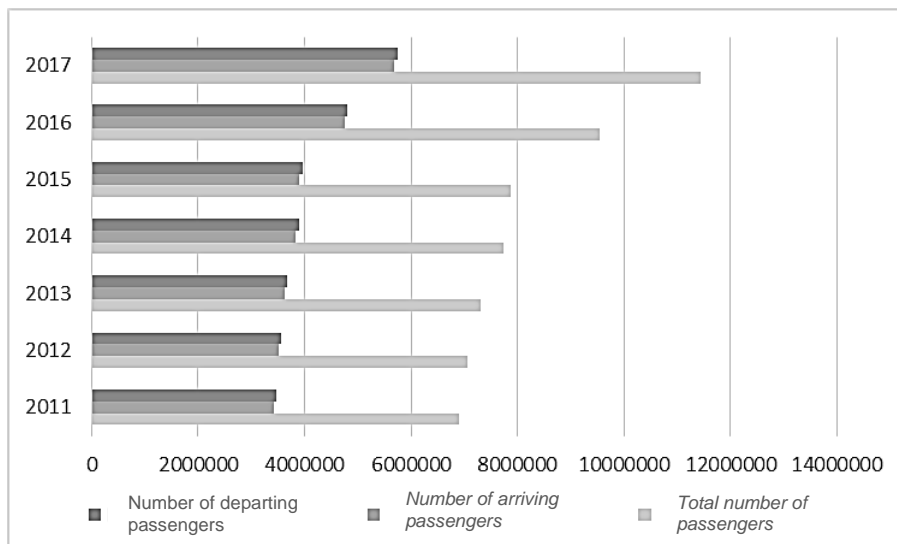


Figure. 1. Number of passengers who used Bulgarian airports in the period from 2011 to 2017

Source: Natsionalen statisticheski institut [National Statistical Institute], <http://www.nsi.bg/bg/content/1749/vazdushen-transport>

Air traffic in Europe has grown several times over the last 10 years as a result of the liberalization of EU air transport, the number of air routes exceeding 3,500 by the end of 2016. Air flights are no longer an experience for high-income groups only, but offer similar levels of service on a global scale. The International Civil Aviation Organization (ICAO) explains the fast growth of air transport for tourism purposes over the last years with two major factors: *first*, the growing income of the middle class in developing economies, which implies an increase in consumer expenditure, including expenditure on different travel modes, and *second*, the fact that air transport offers a better quality/price ratio as a result of the advances in aircraft technology and the liberalization of the market. Lower air fares and operating costs of airlines are due to

improvements in both air transport technologies and airline resource management and fuel prices.

Another moment in the conceptual presentation of the collaboration between tourism and transport is the view that the parallels between the two sectors can be characterized as follows (Lohmann G., 3/2014):

- *Regulatory synergies.* Tourism occupies a regulatory space which incorporates the provision of safety, environment and economic contribution. The regulation of tourism may have a significant direct impact upon transport and vice versa. A successful, targeted tourism marketing campaign, for example, can raise transport competitiveness. Similarly, new airline business models can render less popular destinations more attractive.

- *Objective function.* Both sectors seek to increase their market shares by selling differentiation in their products and experiences to key market segments: destinations target specific type of travelers seeking particular experiences; transport provides structures, fares and amenities that will match the expectations of the market segment.

- *Shared emphasis on sustainability.* Both tourism and transport have been fundamentally transformed in recent years by the drive towards sustainable operations and a reduced footprint. Transport operations in various modes of transport can be challenging not only in terms of environmental aspects, but also in regards to social, economic and cultural perspectives. Responsible tourist behaviour is another major issue.

This overview of the correlation between transport and tourism supports the thesis that the development of a coordinated and integrated transport system may provide substantial prerequisites for generating positive effects on tourism. Hence, an efficient, safe, secure, sustainable, accessible, financially viable and competitive transport system needs to be established that will meet both the short-term and the long-term needs of tourism, the economy and the community.

2. Appraisal of the Transport Infrastructure in Bulgaria – a Comparison with the Country’s Immediate Rivals in Tourism

The need to modernize the transport infrastructure in our country in order to provide competitive tourism products and services is supported by the comparison with the transport infrastructure in the countries that are Bulgaria’s immediate rivals in tourism. According to documents of government bodies and non-governmental organisations, analyses conducted in various research projects and experts’ opinion, the major immediate rivals of Bulgaria as a receiving tourist destination are the Balkan countries: Albania, Greece, Macedonia, Romania, Slovenia, Serbia, Turkey, Croatia, Monte Negro, as well as Austria, Italy, Spain, France, Cyprus and the Czech Republic. These

countries are identified as Bulgaria's immediate rivals based on the following *criteria*: similar tourism products offered; similar pricing; geographical proximity to source markets; similar profile of the tourists who visit the country¹.

It is beyond any doubt that infrastructure is the basis of and a major factor determining the attractiveness of a country as tourist destination. This is especially true of transport infrastructure that ensures the viability of transport services and is perceived as a major determinant when appraising a destination, while the transport network is considered to be an essential component of successful tourism development. Ensuring the appropriate transport infrastructure is a prerequisite for tourism development and a number of scientific research works justify the need of efficient transport as a holistic element which contributes to successfully implementing a tourism development programme. What is more, improving the transport infrastructure results in lower transportation costs. The increased capacity of roads, higher reliability, the high quality of road surface, the increased security provided by having more numerous and wider roads and better signs and road marking reduce fuel consumption, the amortization and breakdowns of vehicles, and the speed of traffic flow. A good investment in transport infrastructure will affect the costs and quality of tourist experiences. Tourists from developed countries, that are predominantly the source tourism markets, are used to well-developed infrastructure in their countries of residence. They prefer and expect the same level of comfort when travelling abroad. Should their opportunity to travel to a preferred destination be obstructed by a poor transport system in terms of uncompetitive prices, slow traffic or inconvenient schedules, they would most probably choose a different destination.

To compare the condition of transport infrastructure in Bulgaria to that of the infrastructure in our immediate rival countries, we employ data provided by the World Economic Forum (World Economic Forum, 2018) about the quality of road, railroad, airport and port infrastructure. The organization attributes these scores to the Basic Requirements subindex of the Global Competitiveness Index. Values are on a 1 to 7 scale, a score of 1 indicating 'extremely underdeveloped' and a score of 7 indicating 'extremely well developed'. The average score is computed as the arithmetic mean of all scores of the countries that are Bulgaria's immediate rivals in tourism and all EU member states (see Table 2).

¹ Based on The National Strategy for the Sustainable Development of Tourism in the Republic of Bulgaria 2014-2030, which was adopted with Minutes No. 22 of the Council of Ministers on 04.06.2014 as a result of project BG161PO001/3.3-01/2008/001-0, 'Brand Bulgaria Strategy Development, Products and Regional Brands Development and Introduction of Integrated Brand Management', under Operational Programme Regional Development 2007 – 2013, Grant Scheme BG 161PO001/3.3-01/2008 'Efficient National Marketing Support of the Tourist Product and Information Service Improvement'.

Table 2.
Assessing the quality of infrastructure in Bulgaria and in its major rivals in tourism

Country	Quality of roads	Quality of railroad infrastructure	Quality of port infrastructure	Quality of air transport infrastructure
Austria	6.0	5.3	3.9	5.2
Albania	4.3	1.2	4.1	4.1
Bosnia and Herzegovina	3.1	2.0	2.1	2.7
Bulgaria	3.4	3.0	4.1	4.3
Greece	4.5	2.8	4.5	4.8
Cyprus	5.1	n.a.	4.6	5.5
Italy	4.5	4.1	4.4	4.6
Spain	5.5	5.5	5.5	5.8
Romania	2.7	2.6	3.5	4.0
Slovenia	4.4	2.9	5.0	4.3
Serbia	3.2	2.2	3.0	4.2
Turkey	5.0	3.0	4.5	5.4
France	6.0	5.8	5.1	5.7
Croatia	5.5	2.8	4.6	4.2
Monte Negro	3.5	2.9	4.1	4.3
The Czech Republic	4.0	4.4	3.5	5.3
<i>Average scores of Bulgaria's immediate rivals in tourism</i>	4.42	3.37	4.11	4.65
<i>Average scores for the EU</i>	4.77	3.05	5.14	5.10

Source: World Economic Forum. *The Global Competitiveness Report 2017-2018*.

The data presented in table 2 about *the quality of the infrastructure in Bulgaria* support the argument that efficient solutions and actions need to be implemented to improve the infrastructure in our country. Bulgaria scored below the average scores of its immediate rivals in tourism and below the average scores for the European Union for all four types of infrastructure, i.e. in terms of roads, railroads, ports and airports.

These findings are confirmed by the scores of the country for transport infrastructure, *as an element of its overall tourism competitiveness*. Bulgaria ranks 45th out of 136 countries in terms of its overall travel and tourism competitiveness. The values of the indicators for the selected pillars which form the T&T Competitiveness Index are on a 1 to 7 scale, a score of 1 indicating 'extremely underdeveloped' and a score of 7 indicating 'extremely well

developed'. Bulgaria's scores for the pillars composing tourism competitiveness, especially those for tourism infrastructure, are unsatisfactory (see Table 3).

Table 3.

Bulgaria's scores and ranking for the pillars comprising the Travel and Tourism Competitiveness Index in 2017

Index component	Rank out of 136 countries	Score from 1 to 7
Business environment	61	4.5
Safety and security	89	5.1
Health and hygiene	10	6.6
Human resources and labour market	54	4.7
ICT readiness	49	5.0
Prioritisation of travel and tourism	92	4.3
International openness	48	3.9
Price competitiveness	37	5.3
Environmental sustainability	11	5.0
Air transport infrastructure	80	2.4
Ground and port infrastructure	73	3.1
Tourist service infrastructure	14	5.8
Natural resources	41	3.8
Cultural resources and business travel	66	1.7

Source: World Economic Forum. *The Travel & Tourism Competitiveness Report 2017*.

The scores of the Bulgaria's tourism competitiveness, as surveyed and assessed by the World Economic Forum, and the data published in the Travel and Tourism Competitiveness Report for 2017 (Table 3) indicate that *some of the lowest scores of country* are those for the air transport and the ground and port infrastructure - 2.4 and 3.1 respectively (World Economic Forum, 2017).

We may therefore conclude that the quality of transport infrastructure in Bulgaria needs to be upgraded and modernized. This finding is confirmed both by its comparison with the quality of the different types of infrastructure available in the countries which are our immediate rivals as tourist destinations (Table 2) and by the comparison between the score of the transport infrastructure and the scores of the other components of the travel and tourism competitiveness of the country (Table 3). Hence, the initiatives for improving the quality of the different types of transport infrastructure need to be implemented further, so that the greater accessibility of sites could contribute to rendering tourism into a driver of economic growth and employment.

Another issue which relates directly to improving transport services in order to develop modern tourism is that of travel safety and security. The perceived safety of a destination is a key factor in tourism. Within this context,

we should note that the values of the indicator 'fatalities caused by road accidents in the country', which Eurostat publishes, are extremely unfavourable for our country. The indicator measures the number of fatalities caused by road accidents, including drivers, passengers of motorized vehicles and pedestrians, who have died within 30 days after the occurrence of the road accident. The average population of the reference year is used as denominator (per 100 000 persons). Over the last years, Bulgaria registered the highest numbers of fatalities caused by road accidents within the EU (see Table 4).

Table 4.
Number of fatalities caused by road accidents

Country	2011	2012	2013	2014	2015	2016
Austria	6.2	6.3	5.4	5	5.5	4.9
Albania	n.a	n.a	n.a	n.a	n.a	n.a
Bosnia and Herzegovina	n.a	n.a	n.a	n.a	n.a	n.a
Bulgaria	8.9	8.2	8.3	9.1	9.9	9.9
Greece	10.3	8.9	8	7.3	7.3	7.6
Cyprus	8.3	5.9	5.1	5.3	6.7	5.4
Italy	6.5	6.3	5.6	5.6	5.6	5.4
Spain	4.4	4.1	3.6	3.6	3.6	3.9
Romania	10	10.2	9.3	9.1	9.6	9.7
Slovenia	6.9	6.3	6.1	5.2	5.8	6.3
Serbia	n.a	n.a	n.a	n.a	n.a	n.a
Turkey	n.a	n.a	n.a	n.a	n.a	n.a
France	6.1	5.6	5	5.1	5.2	5.2
Croatia	9.8	9.1	8.6	7.3	8.3	7.4
Monte Negro	n.a	n.a	n.a	n.a	n.a	n.a
The Czech Republic	7.4	7.1	6.2	6.5	7	5.8
<i>Average value of the indicator in Bulgaria's immediate rivals in tourism (for which data is available)</i>	7.6	7	6.5	6.2	6.7	6.5
<i>Average value of the indicator in the EU</i>	6.1	5.6	5.1	5.1	5.1	5.0

Source: Eurostat (2018), *People killed in road accidents* (source: DG MOVE); <https://ec.europa.eu/eurostat/web/transport/data/main-tables>

As the data presented in Table 4 indicates, Bulgaria is the top-ranking country for this negative indicator. In 2016, the value of the indicator for Bulgaria was 9.9, the average for EU member states being 5, and the average value for Bulgaria's immediate rivals in tourism being 6.5. Furthermore, over the period from 2014 to 2016, the value of the indicator for Bulgaria did not decline

as it did in most countries which are our immediate rivals in tourism. Romania was the only country where the values of the indicator remained high in that period. Hence the conclusion that further measures need to be adopted in order to improve the road safety in our country since safety and security in general, including those of travelling, are currently two of the key determinants of the attractiveness of a travel destination.

The choice of a tourist destination is affected by a number of factors, including the perceived security of destinations and the time and costs for reaching them. Good accessibility is an essential element of the overall competitiveness of a destination. Adequate infrastructure and means of transport are a major tool for ensuring mobility.

There is room for different improvements in transport so that it could promote tourism development and govern tourist flows. A good example is the development of thematic tourist routes that link sites of tourist interest which can be visited at a time. Such routes can attract tourist flows to less developed or busy but equally interesting destinations. Mobile roaming data providing information about tourist flows, travel distances, etc. provides great opportunities in this aspect. A well developed network has the potential to generate higher demand, to ensure better service, as well as seamless services and routes.

It is therefore of vital importance to implement transport policies in tourism planning and vice versa. Marketing efforts to develop tourism, the liberalization of transport or any other solutions would be inefficient without developing the adequate infrastructure. Policy and decision-makers should focus their activity on promoting an integrated, efficient and affordable transport system that is socially, economically and environmentally sustainable by taking into account land management regimes to prevent the loss of resources and fertile land. Having a wide variety of different stakeholders involved would further contribute to the planning process.

3. Current Trends in the Transport System which Aim at Facilitating and Modernising Tourism

Innovation in and digitization of the transport and tourism sectors are two major characteristics of their current development. Using the opportunities which BIG data, GPS data, the Internet of things, drones and robotics offer, add new dimensions to the processes of production, supply and consumption. Due to the ongoing digital transformation of businesses and processes, the current stage in economic development is described as the age of Industry 4.0. In line with those trends, technological innovations and the digitization of tourism services (Tourism 4.0) are subject to analyses, too.

In the era of digital transformation, innovative technologies are globally employed in transport, for example, self-paving silicone photovoltaic transport

systems that power electric vehicles, traffic lights, road lighting, etc.; transporting people in capsules powered by magnets and powerful rotors with fins along long tunnels above and underground (Gulyashki, 03/08/2017); smart infrastructure, creating a comfortable transport environment, etc.

In Bulgaria, at this stage, there are no conditions for employing such high technologies, yet certain steps could be made to increase the synergy between transport and tourism.

Our review of the aspects in which the transport system needs to be improved so as to modernize and facilitate tourism is based on Hall's research and analysis. The author identifies several key elements of facilitating tourist transport, (Hall, 7/1999). Those include taking advantage of major transportation hubs; promoting sustainable modes of transport; providing efficient public transport for tourists; ensuring universal accessibility. In our opinion, the development of multimodal transport systems, which is one of the priorities of the European transport policy at this stage, should also be added to these four aspects of modernizing and facilitating tourism.

Taking advantage of major transportation hubs – Major transport hubs such as airports, cruise ports, railway stations and bus stations, which offer a range of intermodal links and operate as major centres for passenger transportation, are generally located in or near major cities. These 24-hour transportation hubs have the potential to create a significant number of jobs and to distribute and transport passenger flows (workers and tourists) from the transport centre to the city or region. Transport hubs are increasingly offering a wide range of services and attractions to tourists, a significant share of total airport revenue being generated from exactly such services². A lot of transport centres are diversifying their business models and now provide more retail and parking space which generate revenue and thus supply an integrated travel experiences to tourists. In addition to generating revenue, such an integrated concept may turn transport centres themselves into tourist attractions that present the arts and culture of the region and country. Some cruise port cities develop terminals which add to the features of coastal and urban tourism – for example building a coastal zone with shopping centres and leisure facilities. Such centres create jobs and contribute to prosperity.

Promoting sustainable modes of transport – the impact which long-distance travel has upon the environment is a major factor to consider, yet there are opportunities to encourage visitors to chose *sustainable modes of transport*, including the use of public transport, walking and cycling. In order to be chosen by tourists, these options need to be promoted as easy and convenient alternatives. This requires cooperation between service providers and coordinated planning of routes which meet consumer demands, for example, storage area for bicycles and luggage on trains, etc. which facilitate the environmentally friendly travel experience. Road transport is the transport

² According to the Airports Council International (ACI), 43% of the revenue generated by airports in 2014 came from non-aeronautical activities.

mode which contributes the least to sustainable development. Yet, car manufacturers have been introducing innovations to significantly reduce the greenhouse gas emissions from internal combustion engines. Electric and hybrid vehicles are a fast, flexible and environmentally friendly transport option. Carpooling is also approached as a more sustainable transport mode than using one's private car. In addition to reducing negative impacts, promoting sustainable transport modes seeks to meet economic, environmental and social needs. The objective is to encourage consumption patterns in which individual consumer preferences are in tune with strategic and long-term plans and programmes, for example, by promoting soft mobility, i.e. any non-motorised transport which is powered by human energy only (Gossling, 2013).

Tourism may also promote sustainable transport choices by offering discounts for using public transport and ensuring convenient transport links. Some green hotels offer a 10% green bonus to guests who use environmentally friendly means of transport to arrive, for example, trains, electric cars, bicycles, excluding the use of public transport from the airport. Such hotels provide services such as renting bicycles and electric scooters to their guests, charging their electric cars, etc.

J. E. Dickinson and D. Robbins (Dickinson & Robbins, 2008 (2)) studied car travel behaviour decisions and systematized the major reasons why people *prefer using their personal car* (which contributes the least to sustainable development) in order of importance: (i) convenience (ease of use at any time); (ii) carrying equipment; (iii) speed or time; (iv) *problem with public transport*; (v) presence of children; (vi) independence and flexibility; (vii) *no alternative*; (viii) cost; (ix) number of people; (x) problems with walking or cycling; (xi) distance traveled. The same research identified the following *problems when using public transport*: congestion (volume of traffic); not enough public transport; public transport late; public transport slow.

One of the major difficulties related to the **provision efficient public transport for tourists** is that public transport planning is predominantly concerned with local residents. The seasonal character of tourism also contributes to the lower economic significance which is attributed to the relationship between public transport and tourism. There is great demand for public transport during the high season and when different events are held, which adds to the traffic on local infrastructure. Convenience is an essential element of the overall attractiveness of public transport: it affects passengers directly and may influence more people to switch to using sustainable transport modes. It may increase the number of those who are willing to use public transport instead of driving their own cars and thus contribute to accomplishing the objectives of strategic planning by reducing congestion and parking-space problems, the number of road accidents and greenhouse emissions. Enhanced transport convenience also has an impact on the financial performance of public transport.

Nowadays transport is one of the major factors which affect the condition and development of towns and cities. Large cities in particular suffer

the negative consequences of increased tourist flows that cause heavy traffic and congestions.

Tourist definitions therefore embrace certain approaches to facilitate the **development of transport systems that both improve the experience of visitors and** do not disturb the daily activities of local residents, such as (Wardman, 2014):

- *Awareness about tourism demand models* – Transport services planners must be equipped with reliable information about the daily, weekly and yearly cycles of tourism demand and the factors which affect it; the impacts of public holidays, time and weather, the economic situation and special events. Preparing forecasts and designing strategies which take into account those factors is therefore a good solution.

- *Critical appraisal of travelers' satisfaction* – Critical appraisal is based on regular feedback from tourists and encouraging them to assess the overall quality of their transport experiences, including the efficiency of transport links, the connectivity, convenience, comfort and attractiveness of transport hubs. Tourist feedback facilitates planners and decision-makers in identifying common problems and available opportunities for improving the quality of the transport service.

- *Good network design* - A careful design of transport networks should take into account the impact of routes, stops and service planning upon all potential travelers, integrate the needs of local residents and visitors to ensure optimum efficiency and profitability.

- *Convenience of information* – Travelers visiting unfamiliar destinations need to rely on accurate and timely information about transport. That information must be available through different media, including websites, mobile applications, guidebooks, maps and signage. The visibility of transport information and the language in which it is provided are also important. Information-providing entities should make the most of the benefits of real-time accurate information and facilitate the navigation of tourists in a new city or region through information displays, signage, maps, mobile applications, etc.

- *Encourage integrated ticketing/pricing and destination smart cards.* Integrated e-payment systems render it easier to use multimodal transport options, reduce wait time and combine a number of visitor services in a single transaction. They also ensure a greater coherence of the travel experience. Integrated payment systems, such as smart cards and mobile applications, may be used to pay for different modes of transport, including public transport, taxis, tolls and parking fees, admission fees for museums, tourist attractions and recreation facilities, and even accommodation. Integrated ticketing and pricing options should be promoted by tourist information sources (see Table 5).

Table 5.
Advantages of using smart cards

Advantages	Transport system	Tourists	Service providers
	<ul style="list-style-type: none"> • Save waiting time at ticket counters and vending machines and reduce boarding time. • Unlike paper tickets, smart cards give information about where, when and how people travel. By using that information, it is possible to optimize provided services in line with predicted demand. 	<ul style="list-style-type: none"> • Facilitate ticket purchase and access to tourist attractions; expand the scope of tourist awareness and experience. • Allow tourists to focus on their tourism experience instead of working out a route to the tourist site they want to visit. 	<ul style="list-style-type: none"> • Expanded markets. • Marketing intelligence, a means of influencing consumer choice by providing further benefits, such as information, discounts, loyalty schemes, etc.

Source: Table based on OECD Tourism trends and policy priorities 2016.
<https://www.oecd-ilibrary.org>

Major *challenges* related to the use of smart cards include: the collaboration between transport and tourism policies; cooperation between numerous stakeholders with divergent goals in terms of the participation and allocation of costs and revenue among transport companies and primary suppliers of services within the destination. The organisations in charge of destination management might assist the coordination process by establishing the appropriate conditions for joint work and building the necessary infrastructure.

Ensuring universal accessibility relates to designing the transport facilities and services that meet tourist demands at all levels of mobility, which is an essential element of transport provision. Up-to-date developments in transport require that transport facilities and equipment should also cater for the needs of people with limited language ability and understanding.

Universal design refers to transport systems which are accessible to people with different abilities and needs. This means that transport facilities, means of transport and related services should be adapted to cater for people with reduced mobility (the elderly and the disabled), with limited language ability and understanding, passengers carrying heavy luggage or travelers with other special needs. Universal design can expand potential tourism markets by catering for people with special needs, while at the same time meeting the needs of people without mobility problems as well.

The findings of a research conducted for the European Commission confirm that there is potential for the growth of accessible tourism. According to that research, a scenario in which EU countries offered almost complete

accessibility of buildings, hotels, restaurants, museums and various services, by the year 2020, tourism demand from people with special access needs would increase by 44% compared to the year 2010, the economic contribution of those trips amounting to a 39% growth rate (Miller, 2014).

Tourists, like all other travelers, want to travel safely, at an optimum ratio of speed, comfort and costs. Ideally, they prefer to reach their destination by using a single means of transport only, yet, when this is impossible, they need to rely on **intermodal connections**. The aim of intermodal connections planning is to reduce their number to a minimum and to make them as efficient as possible. As a matter of fact, ensuring seamless transport is a function which relates to improvements in infrastructure, operations, rates and payment systems, by providing the necessary information to make travelling more convenient. Information and communication technologies enable people to use their smart phones to find information about the location of the vehicle and to check the routes which would be most convenient in a particular situation.

Multimodal transport facilities make it possible to travel by at least two different modes of transport by purchasing a single ticket. The more efficient the intermodal connections are, the fewer congestions and less stress for passengers there will be. In terms of tourism, multimodal transport options include travelling from the permanent residence of tourists to the tourist destination and within that destination. The concept of multimodal infrastructure refers to the network of airports, seaports, railway and bus stations, public transport and the mobility of people themselves, that should be integrated and coordinated to establish a system which will move passengers and cargos from one point to another.

As a progressive solution, multimodal transportation systems result in: reduced access time to the vehicle used at each stage of the travel; less wait time, including transfer wait; sufficient services related to the schedule; transfers within or between different modes of transport; information (Wardman 2014).

Encouraging the development of intermodal transport centres and transport policies such as integrated systems for multimodal transport at a national and subnational level, will not only attract, manage and coordinate tourist flows, but will also facilitate the transition to more environmentally friendly transport solutions which will contribute to promoting a destination as a sustainable one. At the same time, if transport and tourism development strategies are not aligned, destinations might not be able to cater for all transported tourists; mobility to or at the destination will be limited, and this will ultimately affect the quality of the tourist experience.

Putting to practice those key elements is essential for building tourist experiences to and at a destination. It is of primary importance to acknowledge the needs of the tourism industry when planning transport access and infrastructure, and so is actively promoting the economic significance of tourism to transport system beneficiaries.

Conclusion

The research paper reviews theoretically the relationship between tourism and transport systems. It analyses the quality of transport infrastructure in the country in comparison to the quality of the transport infrastructure in some countries which are Bulgaria's immediate rivals as tourist destinations. The findings of the research we have conducted upgrade existing opinions about the aspects in which the transport system should be modernized in compliance with tourism needs and provides convincing evidence about the urgent need to modernize the transport system in Bulgaria in order to meet tourism demands.

The major focus areas we present should not be approached as a panacea, yet, they could significantly contribute to ensuring modern transport which meets the growing demands of tourists for seamless and more accessible transport, thus increasing the attractiveness of the country as a tourist destination. Obvious synergies from the collaboration between transport and tourism policies are achievable by carefully designed network links and ensuring transport with convenient multimodal options to access tourist locations and efficient connections between interregional and local transport systems. Good infrastructure, integrated ticketing, information provided to users in different languages, transport facilities and easy access to people with special access needs are essential for visitors' satisfaction.

Headway solutions make sense when put to economic benefit. At the same time, there are clearly no universal models or tools which could be employed for that purpose. Achieving the desirable results is a matter of aligning activities to different stakeholders' interests and implementing coordinated management policies.

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