SPATIAL PLANNING FOR TRANSIT TOURISM ON THE HIGHWAY: A CASE STUDY OF HIGHWAY E-75 THROUGH VOJVODINA (HORGOŠ – BELGRADE SECTION)

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Abstract

The quality and extent of traffic infrastructure has an immense influence on the development of tourist destinations and on tourism in general. Transit tourism is a unique form of movement and represents a link between generating zones and destinations. The subject of this study is the planning and spatial organization along the route of Highway E-75 thorough northern Serbian province of Vojvodina. The goal of the study is to scientifically assert that the route of highway is inadequately equipped as it lacks adequate hospitality services considering its significance and the needs of passengers in transit. The paper intends to analyze the growing tourists' demands perceived in passenger numbers and the passenger vehicles turnover with existing tourist products.

The spatial extent of the research comprises the section of Highway E-75 through Vojvodina (Horgoš – Subotica – Bačka Topola – Vrbas – Novi Sad – Beška – Indjija – Stara Pazova). The study utilizes mixed quantitative and qualitative methods, and employs preliminary desk research, field work, comparative analysis, and a description to establish a critical synthetic narrative. The statistical method of Pearson correlation was used for quantitative data analysis and to assess the relationship between overnight stays in places along the highway and the number of passengers travelling the highway. The results of the research pointed out that the initial hypothesis which refers to the lack of specialized accommodation capacity in the highway zone is valid.

Keywords: planning and spatial organization, passenger turnover in passenger vehicles, overnight stays, Corridor 10, Highway E-75, Serbia, Vojvodina.

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1. Introduction

Numerous authors emphasize the significance and influence of transport and transport infrastructure on tourist development and tourism in general (Khadaroo and Seetanah, 2007; Gunn, 1988; Inskeep, 1991; Štetić, 2003; AIT, 1993; WTO 2007; Clements, 1989). Transport is thus recognized as a factor and element of tourist movement and road transport development as a positive factor influencing faster tourism development (Byung-Wook and Choy, 1993). To this effect, Hall (1999) and Page (1999) assumed that the interrelation of tourism and transport is obvious, whereas Kaul (1985) was among the first to recognize the significance of transport infrastructure as an essential component of successful tourism development which influences creation of new attractions and development of the existing ones. Thus, a road such as a corridor through which demand flows brings tourists to all the places in all the directions of their movement, which was recognized in The Tourism Task Force (2003), wherein it has been stated that transport infrastructure is a huge system which connects a place of residence to a tourist destination. Moreover, Prideaux (2000) suggested that destinations and their surroundings primarily need to be easily accessible, which further implies that all places and resources along the roads could be activated as the elements of the offer.

Consequently, the objects, places or regions that support tourist products cannot be activated for tourism purposes unless they are connected to the sources of demand by means of transportation. To this effect, Murphy, Pritchard and Smith (2000) associated tourist product with tourist demand, and described them as different components of a destination, among which transport infrastructure influences tourists' experience. Gunn (1988) held a similar opinion, defining tourist products as compilations of customer experiences, resulting from the process in which tourists use various services, including transport infrastructure. Smith (1994) confirmed the role of service and accommodation infrastructure in creating customer experience. He further argued for the inevitability of efficient service and accommodation infrastructure which needs to be a constituent part of macro spatial environment of a destination where infrastructure and technology together form a key element of successful tourist experience. Crouch and Ritchie (1999), analyzing tourist product in the context of comparative and competitive advantages, claimed that tourism planning and its development could not be possible without roads, airports, ports, electricity, sewage systems, and pipelines. Numerous authors concluded, based on case studies of different tourist destinations, that transport infrastructure is essential in creating a tourist product, in line with the experience of tourists as users of that tourist product (Gearing, Swart and Var, 1974; Tang and Rochananond, 1990; Kim, Crompton and Botha, 2000; McElroy, 2003; Witt and Witt, 1995; Naude and Saayman, 2004; Dredge, 1999; Gomezelj and Mihalic, 2008; Kripendorf, 1982; Taplin and Qiu, 1997; Miera and Rosselló, 2012).

When discussing tourism and type of transportation with highest application rate in this sector of the economy, it should be highlighted that the share of road transport in tourist turnover is constantly increasing. This transport branch recorded abso-

lute and relative increase in the number of passengers and registered motor vehicles during the last decade of the 20th century (AIT, 1993). The World Tourism Organization estimates that 80% of the total number of tourists in the most developed European countries is comprised of motorized tourists (WTO, 2007). The two most important characteristics of this type of movement are: highest turnover and massive expenditure. It has been confirmed in practice that a high percentage of tourist expenditure is realized during transit between the place of residence and tourist destination. Therefore, to this form of movement and expenditure special attention should be devoted within the total tourism development in an area. With regard to transit movement, it should be highlighted that it is most frequently associated with road transportation, the main features of which are: high turnover, short stays, highlighted seasonal concentration, and massive expenditure compared to other types of transit. Moreover, transit passengers unwillingly leave main roads which mean that optimal economic effects are achieved in objects having adequate offer and being located directly next to the roads (Langer, 1996; Štetić, 2003; Kosar, 2002).

It is widely considered that the issues regarding planning, spatial organization, and accommodation equipment of the highway area are usually solved incrementally and depending on the available investments and the interests of the free market. However, this is frequently insufficient for the successful functioning of adjoining services on the routes connecting a place of residence with a desirable destination. To this effect, McElroy (2003) highlighted the importance of government-built infrastructure in successful development of a destination. Numerous authors including Gunn (1988) and Inskeep (1991) assumed that the infrastructure network of a country represents a potential determinant of a destination's attractiveness. This is best compared and applied to the area which is adjacent to transportation corridors (highways) which are used by masses of passengers on their way towards destinations. People spend significant time in transit and, accordingly, have various primary and secondary needs such as bodily nourishment, various physiological needs, requirements related to vehicles, etc.

Therefore, planning and spatial organization along highway routes represents a special form of aerial equipping which presupposes construction of specific facilities necessary to serve the passengers' needs. Specific features of the Corridor 10 area arise from the function of this highway and its characteristics as the road of highest rank, exclusively intended for motor vehicles traffic, with physically separated lines and full access control (Law on Public Roads, Official Gazette of the Republic of Serbia, No. 101/05). Concordant with this law is the document called Regulations of Land Use Next to Public Roads and Adjoining Services, which further defines conditions and forms of land uses as well as the rights and obligations of adjoining services offered. Pursuant to Article 2 of this document, adjoining services are considered to be all services offered to drivers and passengers, which include food services, retail, various car services (such as refueling, repairing, etc.), advertising, and others. To the category of adjoining service objects belong all objects which offer various services sought by

drivers and passengers (petrol stations, restaurants, shops, motels, car repair shops, ATMs, etc.).

The specific need for accommodation and other passenger services emerged with the adjustment of hospitality services to motorized passengers. This history is traced back to the early years of road travel and especially to the early and mid-20th century United States when the emergence of extensive motorized highway networks led to the massive development of those services. A unique feature concept known as motorist hotel, or motel, as a specific object for accommodating long-distance passengers on the transit routes, emerged in the United States at that time, first in the 1920s and more extensively across the country in the post-war decades. As a consequence of adapting to the needs of users, certain specific features of the motel emerged: its particular location, design, shape, size, capacity and services offered. The concept evolved over time and today some motels have features that are indistinguishable from those of most chain hotels. Also, in the post-war years the motel concept spread to other parts of the world where extensive road and highway networks were being built. One crucial specific feature of motels is the quality and accessibility of parking spaces and garages for passenger motor vehicles even though their capacity and equipment may vary depending on the established category of the object.

Furthermore, in addition to accommodation it is essential that in close proximity to motels, gas stations, car wash and car repair shops, restaurants, and other additional services (shopping, sport and recreation) can easily be found. In addition, horticultural appearance of the immediate area is also one of the recognizable features of a motel (Kosar, 2002).

The purpose of this study is to address the absence of studies in the spatial planning literature that address specific issues of adequacy of existing hospitality and other services (needed by passengers and their vehicles) that exist along the Horgoš – Belgrade section (across the Autonomous Province of Vojvodina) of this important European corridor. Heretofore, the focus of the literature on this subject, in general, has been on transport and traffic infrastructure and their interrelations with tourism as social phenomenon (Hall, 1999; Page, 1999). The modelling of tourist movement at the local destination level was discussed in the study of Lew and McKercher (2006) where it was determined that such movement was caused by physical conditions of tourists, attractions in the transit zone, and the location of accommodation capacities with regard to attractions. The issues of mobility of tourists during their holidays and their stays in destinations were described by Morin (1984). Khadaroo and Seetanah (2007) pointed out the importance of transportation infrastructure in a small island country where tourism is completely determined by the development of infrastructure. Garača, Jovanović and Zakić (2008) analyzed passenger and vehicle turnover on the Highway E-75 section through Vojvodina. However, on that occasion, the authors did not engage with issues of spatial planning and the existence of various services, even though they did perceive the deficiency of specialized accommodation facilities in the observed section of the highway. This previous perception led to this new comprehensive study of the facilities on this section of the highway.

This paper consists of seven sections: 1. Introduction, 2. Spatial plans for Highway E-75, 3. Initial hypotheses and assumptions, 4. Methods of data collection and analysis, 5. Results of the research, 6. Discussion and 7. Conclusion. Section 2, on the spatial plan for Highway E-75, examines old and current issues of spatial planning and equipping of the highway zone in Vojvodina, which were addressed in the 'Spatial Plan for the Subotica – Belgrade Section of Highway E-75' from 1985 (further in text Spatial Plan of 1985) and the 'Spatial Plan for the Regional Infrastructure on the Subotica – Belgrade Section of Highway E-75' from 2003 (further in text Spatial Plan of 2003). The discussion of methodology is divided according to different stages of the research: Secondary data research (4.1), Observation and field research (4.2), and Definition of the statistical instruments for data analysis (4.3). Research results include the following subsections: Spatial planning and conditions on the Highway (5.1), Comparative analysis of current conditions and previous and present plans (5.2), Passenger turnover on the highway section through Vojvodina (5.3), Overnight stays recorded for places gravitating towards the highway (5.4), and finally, the results of statistical analysis (5.5).

2. Spatial plans for Highway E-75

There are several plans that address the issues of arranging and equipping the Highway E-75 with various passenger services. The construction of the north and south sections of this international highway has repeatedly been delayed in the past, thus accordingly, the plans have changed over time. In the context of socialist economy and the role of state in spatial planning in former Yugoslavia, it was by definition assumed that planning of hospitality and other services along road corridors was the responsibility of state authorities. The first plan for equipping the Highway E-75 with various services emerged back in 1985. The second and most recent is the Spatial Plan of 2003 which refers only to the northern part of the Serbian section of this international highway. However, the later plan underwent certain changes and the legal amendment officially known as 'Changes and Amendments to Spatial Plan for the Highway E-75 Regional Infrastructure on the Subotica – Belgrade Section' became part of the law in 2012. Significant number of changes referred specifically to spatial arrangement and equipment of the highway route, primarily in the passenger services sector.

2.1. Spatial Plan for Highway E-75 from 1985

This spatial plan established the optimum distribution of all facilities on the Subotica – Belgrade section of the highway. It was estimated that along the highway there should be rest areas established at regulated distances with facilities offering various amenities and quality services. In this regard it had been planned that there should be:

1. For every 25 km, a rest area with drinking water and toilet facilities (possibly replaced with a restaurant or a camping area).
2. For every 50 km, a motel of selected category, a currency exchange office, and other adjoining objects and facilities for vehicles (e.g. petrol stations and car

repair shops). Four such facilities had been planned near Feketić, Kać and Stara Pazova.

3. For every 100 km, a motel with a wider range of facilities for passengers and vehicles: a restaurant, a café, a pastry shop, a shop, a petrol station, a car repair shop and first aid facilities. Two motels had been planned near Palić and Beška.
4. For every 200 km, a tourist-motel complex which would include, in addition to the already mentioned, also various recreational and shopping facilities: playgrounds, jogging tracks, fitness centers, hairdressers, bookshops, bars, retail shops, tourist information desks, databases and information desks of Serbian Automobile Association. Three such motel complexes which were to represent the highest rank transit centers had been planned in Vojvodina near Horror, Bačka Topola and Novi Sad (Romelić and Tomić, 2001).

2.2. Spatial Plan for Highway E-75 from 2003

In this plan services and amenities on the highway are divided in three different categories: motels, petrol stations and rest areas. However, this study focuses predominantly on motels as unique establishments of the hospitality industry. The plan introduces a principle that motels should be distinguished into two types on the basis of capacity and the scope of services offered. It further stipulates that motels are to be positioned at a functional distance of 30 – 60 km from each other.

Type I includes motels of higher category, a concept similar to the tourism-motel complex from the previous plan, with a capacity of 50 – 100 beds, as well as the indoor and outdoor restaurant seating for 100 – 120 guests, respectively. The areas of commercial activity, according to this plan, were to include essential components such as various retail shops, boutiques, banks, exchange offices, phone boots, etc. Parking lots are divided according to the vehicle category: 50 – 100 for passenger vehicles, 10 for trucks, 20 – 40 for car carriers, and 5 – 10 for buses. Other essential components of this motel type are toilets, drinking water faucets, as well as a tourist information desk at the exit point. Next to each motel a petrol station with a sufficient number of fuel dispensers was required. It is also envisioned that a resting and recreation area should be part of the motel complex concept and its important functional segment. The proposed size of such complex is to be approximately 3 – 4.5 ha (Spatial Plan, 2003).

Type II motel is a lower category motel complex, with a smaller capacity and scope of services offered. In that sense, this type of motel should have 50 – 60 beds, a restaurant seating for 80 – 160 guests inside and 100 – 200 at a restaurant's terrace. Parking space comprises 50 – 60 lots for passenger vehicles, 15 – 20 for trucks, and 5 – 8 lots for buses. Other facilities would include toilets, drinking water faucets, a tourist information desk at the exit point, and a petrol station with sufficient number of fuel dispensers. The resting and recreation areas are also parts of the motel complex in the same scope as with type I motel. Apart from smaller capacity with regard to accommodation and restaurant services there is a light difference in the planned size of the type II motel which, according to this plan, should be up to 3 ha (Spatial Plan, 2003).

The changes and additions which emerged from the latter plan were not vital in regards to the provisions from the previous one. Significantly, the plan increased the number of locations for motels and decreased the number of categories from three to two. Thus, instead of 8 locations, the new plan suggests 13, which represents 40% increase compared to the previous plan. The plan stipulates that this quantitative increase in the number of motels will be followed by a total quality increase of the services available on the highway. Finally, the quality and scope of offered services is significantly increased with the elimination of type III motel (introduced in the Spatial Plan of 1985), which had the smallest capacity and scope of services, as well as from the introduction of more type I motels.

2.3. Changes and Amendments of Spatial Plan for Highway E-75 from 2012

Changes and amendments from 2012 highlighted the type, quality, and quantity of services available to passengers travelling through Vojvodina on Highway E-75. The same old understanding of a motel as an accommodation facility with specific location and purpose remained valid, but the classification practice according to quality and quantity of services was abolished. A new feature in planning services along the route of Highway E-75 was the introduction of service center which would comprise the content of a type II motel, having optional accommodation capacity, car service, and recreational facilities. The total area of the complex would be limited to 3 ha (Changes and Amendments, 2012).

We observe that most of the planned objects, according to the 2012 document, have been built. The only difference is that service centers have failed to reach accommodation capacities intended by the Spatial Plan of 2003. The decision whether or not to build more service centers is left to potential investors. As a consequence of this decision, passengers are offered only two locations for a potential overnight stay, that are equipped with full and adequate hospitality services, on the entire Horgoš – Belgrade section of the highway. The two locations are only 13 km apart and both are situated on the right side of the highway. Moreover, the most frequent service available is that of a petrol station. In practice, this implies smaller capacity and scope of services compared to those of service centers. It has been specified that petrol station includes a petrol station with eight fuel dispensers (out of which six for passenger vehicles and two for trucks), a parking space (with 40 lots for passenger vehicles, 16 lots for trucks and only 4 for buses), public water faucets and toilets, a tourist-information desk as well as a convenience store (Changes and Amendments, 2012). Through this expansion of the petrol station concept the creators of the last document from 2012 essentially aimed to legitimize petrol stations as service centers, and avoid further responsibility on the part of authorities to implement specific provisions from the Spatial Plan of 2003.

3. Research hypotheses and research predictions

The subject of this study is spatial planning and hospitality services equipment of Highway E-75 – Corridor 10 route in the section through northern Serbian Autonomous Province of Vojvodina. The aim of the paper is to objectively establish that the

Highway E-75 route area through Vojvodina is inadequately organized and improperly equipped with regard to its significance and the needs of transit passengers. In other words, the authors have strived to emphasize the gap between the increasing tourist demand (observed in passenger and passenger vehicles turnover) in the last several years and the quality of tourist product, – i.e. the package of services offered on the highway. In order to be able to utilize various important statistical data on the number of overnight stays in nearby places, the authors have decided to create a buffer of 7 km on each side of the Highway E-75 since all of the towns for which data are available are located within this buffer area. This geographical area, further in the discussion, will be referred to as Highway E-75 zone or simply as the highway zone.

The overall research was informed by theoretical attempts of Murphy, Pritchard and Smith (2000), Smith (1994), Crouch and Ritchie (1999), and Gunn (1988). In that sense, two hypotheses were formulated:

- H_1: There is no adequate infrastructure intended for transit tourists on the entire section of Highway E-75 between Belgrade and Horgoš.
- H_2: Passengers on the highway will more frequently stay in accommodation facilities that are situated closer to the highway zone.

In order to validate the initial hypotheses, it was necessary to perform several research tasks:

- Consider the current condition of spatial planning along the Highway E-75 route;
- Compare the condition of spatial planning with the Spatial Plan of 1985 and newer spatial plans;
- Collect statistical data on passengers in passenger vehicles turnover for the period 2001-2010;
- Collect statistical data on the number of overnight stays for the same period; and
- Use appropriate statistical instruments to analyze and determine the strength of relationship between the turnover of passengers in passenger vehicles (independent variable) and overnight stays in the observed area (dependent variable).

4. The research methods and data processing

Several methods were used in the research process, such as: (1) desk research, (2) field research, and (3) statistical instruments for testing series of data.

4.1. Desk research

Desk research involves the study of primary and secondary data. By means of desk research method we obtained data on spatial organization and planning of the highway route which was conducted by Ugoprogres Company. In this research phase, both the data on passenger turnover on the observed highway section and the data for overnight stays in nearby towns were collected. Thus, there are two series of statistical data comprising the decade 2001 – 2010. The first series of data represent the turnover of passengers in passenger vehicles transiting the highway.

Unfortunately, the highway pay toll stops do not record precise statistics on the number of passengers in passenger vehicles – the data which would be most desirable and valid for this research; instead, only limited data on the category of vehicles travelling the highway is available.

Finally, the authors were successful in obtaining data on the number of passengers in vehicles travelling the highway from the border police at the Horgoš border crossing (Hungarian-Serbian border), which serves as the key control point for this research. Such data are systematized and published by the Republic Statistical Office of Serbia in its annual publication 'Bilten – Traffic and Connections'.

The second series of data consists of the number of overnight stays in places located within the highway zone: Palić, Subotica, Bačka Topola, Vrbas, Novi Sad, Inđija and Stara Pazova. These sets of data were collected from the Republic Statistical Office of Serbia, published in annual publication 'Municipalities of Serbia'. In this paper the total passenger turnover on the Highway E-75, measured at Horgoš international border crossing represents the independent variable X_1, and the number of overnight stays in places within the highway zone is the dependent variable X_2.

4.2. Observation and field research

Conducting field work was necessary in order to gain an insight into current conditions of planning and availability of services along the highway route. Detailed observation of the existing accommodation and hospitality service facilities and their transit tourism usability (spatial allocation, condition of buildings and objects) was performed *in situ*, and the results are included in primary data. These observation records were important for comparing the situation anticipated in the spatial plans and the current existing conditions on the highway. Field research was conducted during September 2012, when the highway section from Horgoš to Nova Pazova (171 km) was travelled in a private car by the researchers, and all the observed objects intended for transit passengers on the section were recorded.

Regarding the geographical context, Vojvodina is part of Serbia, located north of the Sava and Danube rivers. Most of the motorized travelers from Central, Northern and Eastern Europe, who are headed south or southeast towards attractive and high quality destinations of the northern coast of eastern Mediterranean, pass through the observed territory. Indeed, the Highway E-75, as the most frequently used transportation route in the area, runs through Vojvodina from north to south (Đuričić, Romelić and Ahmetović, 1996). This road is part of primary road network of Serbia and also a part of broader regional and European road network (Štetić, 2003). With regard to road transit, the highway E-75 is invaluable for Serbia, and its importance is intensified with the fact that it connects the largest towns in the country. Moreover, the importance of joining the European system of road network can be discerned from the fact that Europe is the most highly valorized area with regard to transit tourism since over 50% of world tourist turnover occurs in Europe (WTO, 2007).

4.3. Statistical instruments for testing series of data

Statistical data collected in the first phase of the research were analyzed by different statistical methods. First, the method of correlation analysis was applied, by means of which the equation on the intensity of quantitative correlation of the observed phenomena was explored. A correlation is the relationship between the observed phenomena, where the impact of one phenomenon on the other, - i.e. the impact of the dependent variable on the independent one, is being analyzed. The following is the scale of correlation:

If $0 < |r_p| \leq 0.5$, the correlation is weak,

If $0.5 < |r_p| \leq 0.7$, the correlation is significant,

If $0.7 < |r_p| \leq 0.9$, the correlation is strong,

If $0.9 < |r_p| \leq 1$, the correlation is very strong (Stojković, 2008).

5. Research results

5.1. Spatial planning and conditions on the highway

Field observation showed that the Spatial Plan of 1985 is still unrealized. All the objects/buildings which represent the material base intended for transit tourism on the Highway E-75 section through Vojvodina were observed, and the assessment of the records is not satisfactory, especially in regards to motels as specialized objects for accommodation. Only two motels were registered on the 171 km long section, while the Spatial Plan required there should be at least eight such objects differing in quantity and quality of traveler's services. Most of the facilities intended for passengers along the Highway E-75 are concentrated next to petrol stations, which form a base for service and technical offer in the observed section. Hence, none of the rest areas apart from petrol stations offer tap drinking water. Also, there is a lack of ATMs, exchange offices, and post offices, all of which represents significant drawback for the highway of highest international significance. It is noticeable that the majority of facilities are located next to petrol stations, a fact which conforms to the assumption that those objects represent an essential material base of services needed by transit passengers, not the motels, as the Spatial Plan of 1985 presupposed. The facilities intended for vehicles are few and simple; surprisingly, there was only one car towing and repair service available while a car-wreck service was noticeably absent from the whole 171 km long section.

5.2. Comparative analysis of the present condition and previous and current plans

Observation and field work offered an insight into the present condition of spatial planning and hospitality and other necessary services on the Horgoš – Belgrade section of the Highway E-75. Numerous shortcomings were revealed. On the other hand, if the present condition of the section is compared to the Changes and Amendments of

2012 (the year this field observation was conducted) document, it may be concluded that the Changes and Amendments of 2012, in essence, only attempt to give legal and political recognition to, and tolerate and make accommodations for, the existing non satisfactory state of the highway. In this manner, and exclusively through a political decision, the long-term problem of building and equipping the highway seems to be solved, and the section declared as completed, although it is not. What remains unaccomplished, even after the accommodations from 2012, is a whole gamut of essential communal and service amenities such as water faucets (a least three have been planned, but none has been built), exchange offices, banks, post offices, and first aid services. Facilities providing commercial and financial services (including access to bank accounts, money transfer, etc.) should be available at least in their basic form, through combined banks – post offices. Gas or petrol stations should be equipped with basic ATM services.

As it was mentioned before, according to the present legal practice, petrol stations which offer some basic additional services such as shops and cafés, are presently standardized as service centers, thus replacing the need for standard motel category and tourist-motel complex from the Spatial Plan of 1985, and type I or II motel from the Spatial Plan of 2003, respectively. The latest document on spatial planning from the year 2012 anticipates three more service centers on both sides of the highway and one on the northbound side only, which are yet to be built. Finally, neither of the two service centers with motels that were supposed to be built according to the stipulations made in the latest plan have yet been constructed. It is worth noting that both existing motels are located on the southbound (western) side of the highway while the northbound (eastern) side is still without such facilities.

5.3. Passenger turnover on the highway section through Vojvodina

Passenger turnover in passenger vehicles is of immense importance for our analysis as it is usually indicative of the intensity of tourist transit and the need for adequate spatial planning. The data for the 2001-2010 decade was collected in order to obtain the most recent portrait of the phenomena observed. Data on passenger turnover in passenger vehicles reflect the values for turnover for all passenger vehicles which records identify as variously as passenger cars, buses, or motorcycles. Due to the specific features of their job and vehicles they drive, the truck drivers, whose proportion in transit traffic is significant, have been excluded from this research. The authors believe that commercial and cargo traffic as a specific category deserves separate research.

5.4. Overnight stays in places gravitating along the highway

Statistical data on the number of tourists and overnight stays along the studied section of the highway refer to all of the places in the highway's gravitational zone and has been selected on the basis of reasonable assumption that transit tourists find accommodation in the nearby towns considering the lack of accommodation along the highway itself. The numbers for tourists and overnight stays are balanced, with the

exception of the city of Novi Sad, where there is a significant divergence. Namely, the numbers for Novi Sad are expectedly high since it is the largest city, the administrative, commercial, cultural, and tourist center of Vojvodina, with the population above 300,000. Similarly, Palić is a famous tourist destination for family weekends and short holidays, as well as a center of transit tourism. Subotica, featuring attractive architecture and multi-cultural ambience is a particularly attractive tourist destination and/or a stopover. Incidentally, it is also the largest city in northern Vojvodina with the population of approximately 100,000. Other places offer less significant tourist attractions and their data cannot be separately discussed.

Comparing the data on the number of tourist arrivals to the data on the overnight stays, it may be concluded that tourists staid mainly two to three nights in the selected places. It is certain that this data does not indicate transit tourists because their stays are shorter, up to one night in the areas closer to the highway. Nevertheless, it is fair to assume that some of the presented values refer to transit tourists, even though those who qualify as tourists in destination may be among those who opt not to stay for more than a single night. Thus, it is evident that the raw statistical data does not necessarily describe the real conditions of the problem since it is impossible to discern the exact numbers of transit tourists from the total number of tourists. However, the researchers believe that even such data is extremely valuable for an analysis which ultimately does significantly inform our knowledge and perceptions about the deficiencies of the current planning practice.

5.5. Results of statistical data analysis

Statistical data on passenger turnover on the highway through Vojvodina, as well as on the overnight stays in the cities and towns within the Highway E-75 zone in Vojvodina, were processed by means of Pearson correlation method with the purpose to gain insight into the possible correlation between these two sets of data. The main indicator of such correlation is the correlation coefficient '*r*', which shows correlation when coefficient values are $0.5 < r_p \leq 1$.

The analysis of statistical data did, in many cases, show a certain level of correlation between the observed phenomena. A very strong correlation of passenger turnover and overnight stays in the highway zone is recorded for Subotica, with the correlation coefficient $r_{1.2} = 0.864$. The coefficient value for Palić is similar ($r_{1.1} = 0.802$), whereas for Inđija and Stara Pazova correlation is significant ($r_{1.6} = 0.545$ and $r_{1.7} = 0.518$). As it has been assumed, the correlation between phenomena for Novi Sad is weak ($r_{1.5} = 0.120$), that being the consequence of high share of 'real tourists' who arrive to the city for a longer period and not for an overnight stay, as well as of the fact that transit passengers generally tend to avoid large cities (perhaps, due to higher accommodation prices). Curiously enough, despite being located in close proximity of the highway, Bačka Topola and Vrbas ($r_{1.3} = -0.282$ and $r_{1.4} = -0.091$) show weak correlation between the observed phenomena. In order to analyze statistical correlation between phenomena along the entire observed highway section total values for overnight stays were added

and checked against the values for passenger turnover on the observed highway section. In this step, a significant correlation was found $r_{1.8} = 0.551$, which was indicative for the goal of our research.

However, keeping in mind that there are high percentages of shares of non-transit tourists, another correlation analysis was performed for sum values of overnight stays, with the data referring to Novi Sad ($X_{1.5}$) being excluded. The final results were within the expected range since the correlation coefficient increased significantly, and its value reached the zone of strong correlation, where $r_{1.9} = 0.764$. The same effect was achieved by excluding all the places (Bačka Topola, Vrbas and Novi Sad), that for any reason failed to achieve significant correlation of the observed phenomena when correlation between $X_{1.10}$ and the turnover of passengers in passenger vehicles was defined by correlation coefficient $r_{1.10} = 0.824$.

6. Discussion of the results and the research

The research has yielded significant results. There is significant correlation between passenger turnover on the Highway E-75 section through Vojvodina and overnight stays in the highway zone. This means that passengers were for certain reasons forced to leave the highway to search for overnight accommodation in nearby cities and towns. One reason is certainly the lack of adequate material base for hospitality services on the Highway E-75 section through Vojvodina.

The absence of a strong correlation for Novi Sad is explained by the fact that high percentage of tourists in the total number of overnight stays in that city is a consequence of its natural, geographical, cultural and historical assets. Thus, it is clear that elimination of data for Novi Sad from the total sum drastically increases the percentage of interdependence of overnight stays and passenger turnover, which is slightly over 76% in the case of this particular city. Although Palić is an important destination for excursion and family tourism, its location near the highway outweighs the significance of other tourism characteristics and intensifies its transit one. However, the data for Bačka Topola and Vrbas, as smaller settlements situated near the highway, are completely unexpected. The obtained results may be explained by the absence of appropriate accommodation facilities which might potentially reduce the number of overnight stays in these places by transit passengers. An analysis of data obtained from the Vojvodina Chamber of Commerce revealed that Vrbas has only one dilapidated hotel of the lowest category, in which accommodation is less than adequate. On the other hand, there is a three star hotel in Bačka Topola which offers all the necessary amenities for transit passengers. Nevertheless, the correlation coefficient is out of the range of a strong correlation. As it was remarked in the introduction, the passengers unwillingly leave the corridors they travel on, which would be necessary for finding accommodation in either Bačka Topola or Vrbas, located about 7 km (on the fringe of the highway zone) away from the highway. Such circumstances have negative impact on total correlation values; in case they are ignored, the impact of non-transit factors on total overnight stays is reduced by 27.3%. Comparing data

on the correlation of observed phenomena, – i.e., the strength of their interrelation on one hand and the existing material base for hospitality services of tourism in the Highway E-75 zone on the other, it is fair to conclude that the organization and hospitality service equipment of the highway section through Vojvodina inadequately meet the needs of transit tourists in their passage through the territory of the province. Occasional diversions into nearby towns and cities can be seen as a significant effect of the poor state and inadequacy of hospitality services provided along the Highway E-75 – European Corridor 10. There exist only two motels, of specialized accommodation type, intended for transit tourists and their vehicles in the entire observed section of the highway. Moreover, there is only one camping site with bungalows and parking areas for recreational vehicles which is, unfortunately, out of use. Even though the Spatial Plan of 1985 has been legally superseded, the theoretical and practical issues addressed there, as well as the development directions suggested in it, still possess significant validity. It is worth noting that the implementation of this plan failed due to lack of national interest for processes regarding planning and organization of areas for specific purposes which are of immense importance for the society. Namely, the economic situation in the Republic of Serbia since 1991 has been unfavorable. Since 2000, political changes on national and international level have resulted in neglecting active participation in the economy by the government. Therefore, free and uncontrollably flowing market capital gained control over decision making regardless of the general interest and the needs of the society as whole. This new paradigm is obvious in the Changes and Amendments to Spatial Plan for the Highway E-75 Regional Infrastructure on the Subotica – Belgrade Section. Nevertheless, the fact that variability between turnover for passenger in passenger vehicles and total overnight stays on the studied section of Highway E-75 is about 55% is indicative. This is explained by the interdependence of overnight stays and passenger turnover.

7. Conclusion

The European Corridor 10 – Highway E-75, which crosses the territory of the Republic of Serbia lengthwise from north to south in the length of 582 km, represents an invaluable axis and pole of development for the country. This research confirmed that the highway, along the observed area, lacks adequate material base for hospitality services, something that is unjustified given the intensity and character of transit traffic and passengers' needs and demands. Hence, it is necessary to finally commence the implementation of Spatial Plan of 2003 which anticipated the network of motels together with fully equipped services to both passengers and vehicles. Petrol stations alone are not sufficient in fulfilling the needs of passengers. According to the Changes and Amendments of 2012 the situation has largely remained the same. Without motels, car emergency services, exchange offices, ATMs, and other similar services, the very importance of highway as a sufficient and well equipped system for transportation of people, goods, and services become affected.

It is common wisdom that adequate traveler services increase passengers' satisfaction and experience. At the end, it is even fair to say that safe, convenient, and pleasant road experience positively impacts people's desire to travel. As numerous shortcomings concerning the proper equipment of the Subotica – Belgrade section of the Highway E-75 were observed (in addition to being previously legally recognized in the Changes and Amendments of 2012), it is necessary to apply regular legal procedure and initiate new public and professional discussion on the existing legal acts and work toward consensus on a new spatial plan that would strike a balance between the needs of transit passengers and tourists on the one hand, and the civil authorities and investors on the other. It seems difficult to accept and even imagine that there are only two spots on the entire 171 km long route in which a passenger can spend a night and have a proper meal.

It is worth mentioning that the two motels, which were mentioned before in the text, were periodically closed due to the bankruptcy procedures which they were undergoing at the time. That fact impacted this study by showing weaker statistical correlation coefficient for Vrbas ($r_{1.4}$ = -0.091), whereas the correlation analysis for Mali Iđoš was not performed due to the lack of data for that town during the period 2001-2010. In that sense, it is difficult to discuss what the possible values of the coefficients could be if data for the correlation between overnight stays on the highway route and the number of passengers in passenger vehicles were available. All the overnight stays were made outside the highway itself, which means that passengers had to get off the road and search for a place to spend the night. In that regard, the highest role is assigned to places with recognizable features and established reputation which are still located in close proximity to the highway (such as Palić and Subotica). Furthermore, municipal authorities of Inđija and Stara Pazova, having realized the benefits of their relative geographic position (between two important highways, E-75 and E-70) and perceiving their own strategic interest and significance for transit tourism, increased marketing activities for the accommodation capacities within their municipal territories. This resulted in good correlation coefficient found for these two towns.

However, it is fair to conclude that the lack of accommodation facilities and other accompanying services that are suited for the needs of passengers are an undisputable issue which needs to be clearly regulated by a legal document instead of being left to the whims of the investor's personal choice. Political aspect of large projects, such as the Corridor 10, has always been important, and it was often evident through the roles and functions played by various ministries, traffic management and communication sectors, and capital investments of the state in infrastructure. Since 2000, the government and its various bodies have been promising the completion of the works on the corridor even though the construction work on certain sections, especially in the southern part of Serbia, is still in progress. As a result, and especially in regards to the equipment of the corridor, there are unfinished segments and a tendency to legalize present (unsatisfactory) conditions on the Subotica (Horgoš) – Belgrade section as it is. However, the authorities seem to believe that their concern is only the quality

of asphalt on the highway and 'wash their hands' from responsibility on providing incentives for quality hospitality services on the highway. It is essential to advocate new public discussion and insist on a new document on spatial planning in the highway zone through Vojvodina. Proper spatial organization, planning and equipment of the highway, as conscious and planned activities based on valorization process and in accordance with previously established scope of demand, potential tourist offer and socio-economic goals of the society as a whole must demonstrate the direction that public policy is taking. The relevant public policy must be based on the needs of transit passengers and travelers in general, the nearby communities, and the society as whole.

Finally, it should be pointed out that this research confirmed both initial hypotheses. Hypothesis H_1, which deals with the issue of inadequate infrastructure intended for transit tourism, was validated in full by field work and observation, as well as by insight into and the analysis of the previous and the current planning documents. On the other hand, hypothesis H_2 was not rejected even though practically all accommodation capacities were situated off the highway itself, yet on approximately similar distances from it; different marketing activities contributed to the fact that passengers were attracted more to some of them than to the others. Logically, motels as accommodation facilities which are usually located immediately to the road should have the highest concordance with the turnover in passenger travelling in passenger vehicles. Therefore, this research highlights a need for increased number of service centers with petrol stations and motels in which accommodation capacity would be less important than the quality and scope of hospitality, retail and recreation services offered.

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