Abstract
The most used means of transport in tourism and the most important at the same time are: by car, by train, by plane and by ship. The sustainable development of transport depends on a number of economic, technical, social, and political factors. That is why it is so important to investigate a lot of options in order to assure a sustainable development of the transport systems and to analyze the complementarity between the introduction of new technologies and other support mechanisms.

Key-words: sustainable development, sustainable transport, tourism.

JEL classification: L91, L83, Q01.

1. INTRODUCTION

Transport represents the first indication of tourist consumption, as it is the only element a tourist cannot give up to when traveling to tourist destinations. The connections between tourism and transport are so tight, complex and varied that one can say that transport, by its attractiveness, can become the voyage motivation stimulus.

Nowadays, tourism represents the junction point of progress and modernizing all means of transport. The industry of means of transport and transport services plays an important part in the tourist industry, the transport thus having both a functional and an attractive role in order to satisfy both the necessity of tourist access and the tourist motivation.

2. MEANS OF TRANSPORT USED IN TOURISM

Transport represents a part of the economic activity of human society which appeared at the same time with it and which has an influence upon all the parts of the social-economic life (Ioncică, 2002, p.215). It ensures the movement of tourists from the residence place to the holiday place, for pleasure stay tourism, and for the whole journey in case of the itinerary tourism. If only analyzed from this perspective, the transport service is complex, aiming not only the proper journey, but also all the operations, conditions and facilities connected to the organization of the physical movement of tourists, luggage and merchandise meant for their consumption. There are also included the services offered to those resorting to an organized form of tourism, as well as the services performed for the people traveling by their own means of transport.

Road transport plays an important part on the market of domestic and international tourist journeys. The road transports are made with coaches, minibuses and vehicles. Coaches and minibuses are mainly used for organized forms of tourism, they are meant for collective transportation and they are owned or managed by tourism organizers. Vehicles are usually used for the journeys on their own, and as for the ownership, they mainly belong to the tourists or to some specialized enterprises, used through a hiring system.

Railway transport represents touristy transport mainly used for mass tourism. Railway transport is one of the oldest means of traveling and it played an important part in the development of tourism during the former half of this century. With the appearance of high-speed trains, railway transport developed significantly. On the other hand, the important European railway companies begin to appear in the booking systems, along with the air transport companies. The price discounts offered to different segments of tourists also stimulated the railway transport: Rail Inclusive Tours, Eurail - Plan, Eurail-Group, Eurail-Tariff, Eurail-Junior, and the special prices for aged persons.

Water transport is one of the least requested means of traveling, due to some more special conditions to be performed, to the speed of the ships and to the need to continue the voyage many times by other means of transport. Therefore, the naval transport counts only for 2-3% for the international tourist traffic and 1-2% for the tourist traffic of our country, the percentage being relatively constant. Naval transport is performed at present mainly as cruises, becoming more like a recreation means than a transport one (Stânciulescu, 2005, p.250).

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Road, railway, air, sea, and naval transportation represent, according to tourism specialists, the most frequent means of traveling for touristic purposes, and they also prevail the most within the contents of the tourist product.

The road transport prevails among the means of transport used for the international visitors’ arrivals in Romania, as it results from the diagram below,
showing that 72% of total arrivals are made by road in 2000, increasing up to 75% of total arrivals in 2006.

Figure 1. International visitors’ arrivals according to the means of transport during 2000 - 2006 (thousands)

Although the use of road transport slightly increased since 2000, the most significant change in the use of means of transport was the increase of arrivals by 71% using the air transport, and a decrease of almost 55% of railway transport. However, it is more important to continuously develop the international arrivals by air in 2005, in spite of the health and environment problems (the arrivals increased by 30% comparing to 2004). The continuance of this increase (22% in 2006 comparing to 2005) led to resuming the total of international arrivals for that year. The visitors’ arrivals by air have shown an important increase of this kind of traffic lately.

The air transport plays an important part within the international tourist transport, by its dynamics and especially by the perspectives opened to international tourist traffic. By its spectacular evolution, by the advantages offered concerning the movement speed and comfort, the air transport stimulates the voyages, thus contributing to opening new markets, usually far away from the countries generating tourists and inaccessible by other means of transport.

Among the 50 big world airline companies, 23 are 100% under private ownership, 13 are partially privatized, and the rest of 14 are fully owned by state. Only four of the last ones range among the first 25 top world companies, and from the turnover of the 50 big airline companies, the state-owned capital companies owns one sixth (Cristureanu, 2006, p.281).

The European air transport entered a transition period in which the state did not completely withdraw its support, but it conditioned it. The passenger air transport in the European Union is shown in the table below.

Table 1. Passenger air transport in the European Union, 2006

<table>
<thead>
<tr>
<th>Country</th>
<th>2005 (millions)</th>
<th>2006 (millions)</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>18.293</td>
<td>19.155</td>
<td>4.5</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>5.023</td>
<td>5.605</td>
<td>11.6</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>11.266</td>
<td>12.171</td>
<td>8.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>22.173</td>
<td>22.966</td>
<td>3.6</td>
</tr>
<tr>
<td>Germany</td>
<td>145.977</td>
<td>154.146</td>
<td>5.6</td>
</tr>
<tr>
<td>Estonia</td>
<td>1.393</td>
<td>1.533</td>
<td>10.1</td>
</tr>
<tr>
<td>Ireland</td>
<td>24.254</td>
<td>27.588</td>
<td>13.6</td>
</tr>
<tr>
<td>Greece</td>
<td>30.799</td>
<td>32.762</td>
<td>6.4</td>
</tr>
<tr>
<td>Spain</td>
<td>143.680</td>
<td>150.599</td>
<td>4.8</td>
</tr>
<tr>
<td>France</td>
<td>107.955</td>
<td>113.183</td>
<td>4.8</td>
</tr>
<tr>
<td>Italy</td>
<td>87.906</td>
<td>95.914</td>
<td>9.1</td>
</tr>
<tr>
<td>Cyprus</td>
<td>6.782</td>
<td>6.714</td>
<td>-1.0</td>
</tr>
<tr>
<td>Latvia</td>
<td>1.872</td>
<td>2.488</td>
<td>32.9</td>
</tr>
<tr>
<td>Lithuania</td>
<td>1.434</td>
<td>1.799</td>
<td>25.4</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.538</td>
<td>1.597</td>
<td>3.9</td>
</tr>
<tr>
<td>Hungary</td>
<td>8.049</td>
<td>8.246</td>
<td>4.1</td>
</tr>
<tr>
<td>Malta</td>
<td>2.757</td>
<td>2.700</td>
<td>-2.1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>46.433</td>
<td>48.583</td>
<td>4.6</td>
</tr>
<tr>
<td>Austria</td>
<td>19.685</td>
<td>20.825</td>
<td>5.8</td>
</tr>
<tr>
<td>Poland</td>
<td>7.080</td>
<td>13.738</td>
<td>31.4</td>
</tr>
<tr>
<td>Portugal</td>
<td>20.272</td>
<td>22.027</td>
<td>8.7</td>
</tr>
<tr>
<td>Romania</td>
<td>3.494</td>
<td>4.722</td>
<td>35.1</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1.217</td>
<td>1.327</td>
<td>9.1</td>
</tr>
</tbody>
</table>
The number of passengers transported by airplane in the European Union countries increased by 4.7% in 2006 compared to 2005, reaching about 740 million persons. In 2005, the number of passengers in the European Union (UE25) had increased by 8.5%. In 2006, the highest number of passengers was in Germany (154 million, an increase by 6%), in Spain (151 million, an increase by 5%), in France (113 million, an increase by 5%) and in Italy (96 million, an increase by 9%).

As a conclusion, we can say that the European carriers on the air transport services market started to learn from the experience of confronting to the free market that, in order to survive on the market, they have to rely only on the commercial strategy.

### 3. SUSTAINABLE TRANSPORTS

The need of transport systems compatible to the sustainable development became obvious in any corner of the world. Nevertheless, the transport sustainable development depends on a great number of economic, technical, social and political factors. That’s why it is important to investigate plenty of options in order to reach a sustainable development of the means of transport, and to analyze the complementarities between the introduction of the new technologies and other support mechanisms (Ioncicî, Petrescu et. al, 2004, p.94).

The transport European common policy has a few objectives:  
- The development of trans-European transport networks that also favors the development of the regions left behind or less privileged;  
- The transport markets shall be liberalized as much as possible;  
- The transport sustainable development, an objective to be achieved in different ways, for example by imposing the market to comply with some principles and by internalizing the external costs of the transport.

The European policy aims the reduction of air pollution by the terrestrial transport vehicles in different ways: reduction of exhausts gases per vehicle, ease of traffic, and reduction of mobility increase.

Along with the measures aiming the reduction of exhausts gases per vehicle, the reduction of traffic agglomeration can lead to the reduction of air pollution and energy consumption, by using some traffic management systems or by building infrastructure especially for the less polluting means of transport.

The Transport and Tourism Commission proposes a report concerning the sustainable transport European Policy, taking into account the European policies on energy and environment. The report emphasizes the importance of the transport system from an occupational point of view concerning the economic growth and the innovations, and it considers that a safe, at hand and guaranteed mobility is a fundamental requirement for our lifestyle.

To ensure the energy and environment sustainability of European transport is an objective that can only be reached by combining several policies that support and complete each other and by involving an increasing number of actors, representatives of the transport sector, of the public administration or of the citizens. The negative effects of individual actions can only be annihilated by applying some proper combinations of different measures that should increase their degree of acceptability by the citizens. This combination of measures should especially include:

- Technological progress (measures allowing the improvement of the energy efficiency; new standards/norms for engines and fuels; use of new technologies and alternative fuels);
- Market instruments (fees/tariffs based on the impact on the environment or on the degree of traffic agglomeration, fiscal incentives, a marketing system of emissions quota (ETS) that should take into account the particular features of different means of transport);
- Measures of accompaniment to optimize the use of the means of transport and of infrastructures, and to stimulate the enterprises and the citizens to change their habits.

The railway transport, as a means of transport with low energy consumption and the most reduced CO₂ emissions, represents an important development potential in the merchandise transport logistics and in the passenger transport on small and medium distances.

In spite of the 1-2% reduction of the fuel consumption per passenger per km, achieved by the airline companies in the last ten years, and of the significant reduction of noise pollution, the total impact of civil aviation on the environment increased due to the significant traffic growth.

The sustainable transport is a complex system that should assure the complete satisfaction of the mobility need for present generations, without jeopardizing the environment and health factors, and that should make possible, by optimizing the energy and materials’ consumptions, the satisfaction of the mobility needs of future generations, from economic, environmental, and social perspectives.

### Table: Number of passengers transported by airplane

<table>
<thead>
<tr>
<th>Country</th>
<th>2005</th>
<th>2006</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slovakia</td>
<td>1 583</td>
<td>2 124</td>
<td>34,2</td>
</tr>
<tr>
<td>Finland</td>
<td>12 348</td>
<td>13 443</td>
<td>8,9</td>
</tr>
<tr>
<td>Sweden</td>
<td>22 899</td>
<td>25 855</td>
<td>3,1</td>
</tr>
<tr>
<td>The United Kingdom</td>
<td>204 013</td>
<td>211 229</td>
<td>3,5</td>
</tr>
</tbody>
</table>

For the development of a Sustainable Transport System (STD) it is necessary to consider some aspects, such as:

A. From a socio-ecological perspective:
- Increase the accessibility to STD by adopting the most efficient options to completely satisfy the mobility requirements of the society;
- Assure the transparency of all measures and explain them, and at the same time encourage the public participation to the debate on usefulness, purpose and costs of these actions;
- Assess the social and environmental impact before applying any action;
- Give priority within the transport system development to the environmental ones, with minimum or no negative effects;
- Reorient and reorganize all means of transport towards STD;
- Minimize the production and disposal of wastes for each stage of the vehicle lifecycle, at the same time with their recycling;
- Stop the habitat degradation, the ecosystems division and the loss of agricultural or social areas;
- Cover all transport needs for the members of communities, at the same time with increasing the life quality and safety.

B. From an economic-environmental perspective:
- Internalize the external costs, including long term costs;
- Promote some research and development programs focusing on the performance of strategies, plans and measures necessary for the development of STD;
- Establish the particular indicators of STD that should be permanently followed, their value corresponding to the value of the general indicators of the socio-economic development of the society;
- Assure a higher usage of regenerative resources compared to the non-regenerative ones, at the same time with the use of some new types of technically and environmentally efficient materials;
- Generally reduce the fuel consumption by optimizing the systems and activities (mainly adopt both the minimum movement routes and an appropriate running method);
- Adopt some administrative and fiscal measures in order to encourage the environmental transport (public transport should be a priority) to the detriment of the polluting ones;
- Establish some special funds for the development of STD;
- Use some particular prognosis patterns, necessary to adopt on long term all the actions leading to the implementation of STD, by considering the aspects from the environmental, economic, social, financial, city-planning field, etc.

Public transport should be a priority both for the population and for the local administration. To move from any place of the city towards any proposed target, using the same ticket or transport subscription, can replace the need of using their own vehicle, thus decreasing the personal costs and increasing the respect for the people around you that can breathe fresher air and can enjoy a clean and green city.

The transport represents an important factor in the socio-economic development, but if it is not sustainable developed, it imposes significant costs for the society regarding the impact on the environment and on health. Every day, about 112 persons die in road accidents in the European Union, more than 40,000 a year. The resulting human and economic cost is unacceptable. Economically, road accidents cost the European Union 2% of GDP a year.

The objective of the European Commission is to reduce by half the number of deaths in accidents until 2010. According to the principle “the polluter pays”, the transport users should be financially liable for the costs of the trips, including the damages caused by their actions upon the natural and the built environment, upon the society and the economy. Charging for using the infrastructure, the environment fees or traffic agglomeration fees would make a difference concerning the diminution of the transport impact on the health.

The transport sector is well known as being a main atmosphere and noise pollution source. It is also responsible for more than 60% of the carbon monoxide and carbon dioxide emissions. Even if the regulation of some strict rules regarding the equipment of the new car generations leads to the reduction of toxic gas emissions, many cities still face serious problems regarding the air quality and the ozone layer, at regional and world level.

Statistics show, at domestic and international level, a high increase in the merchandise, road, and air transport, to the detriment of some less polluting means of transport, such as the railway or naval transport.

The tendencies mentioned emphasize the necessity of implementing a systematic and coherent transport policy focused on sustainability. A sustainable transport does not suppose the disappearance of some means of transport, but the finding of a balance and of some real solutions of sustainable usage of all means of transport. The man is not easily willing to give up the comfort offered by his/her own vehicle. If this vehicle used an Aeolian or solar source instead of some polluting and non-regenerative source and if the public transport were organized as to offer services from house to house, then the negative impact of transport upon the environment would be reduced significantly and implicitly upon the people, thus resulting a growth in the welfare of population.

The achievement of a sustainable transport, from an economic, social, and environmental point of view, requires a manner to implement the applications in a perspective of a modern urban lifestyle, with the benefits generated for the communities, at the same time with increasing the development of the society, with the benefit of a better welfare of population.
view is a main desideratum of humankind that can only be accomplished by cooperation at all levels: international, regional and local.

4. CONCLUSIONS

The road, railway, air, sea, and naval tourist transport are the most frequent means of movement in tourist purposes, and they also prevail the most within the contents of the tourist product. The transport represents a main factor in the socio-economic development, but if this is not developed in a sustainable manner, it bears significant costs for the society concerning the impact on the environment and health.

As a conclusion, the tourist carriers take part to the sustainable development, generating positive and negative influences on the environment. The sustainable transport is a complex system that should assure the complete satisfaction of the mobility need for present generations, without jeopardizing the environment and health factors, and that should make possible, by optimizing the energy and materials’ consumptions, the satisfaction of the mobility needs of future generations, from economic, environmental, and social perspectives. A sustainable transport does not mean that some means of transport should disappear, but that we should find a balance and some real solutions of sustainable usage of all means of transport.

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