GeoJournal of Tourism and Geosites
Year II, no. 1, vol. 3, 2009, pag. 44-62

THE ROLE OF POLISH ROAD TRANSPORT IN TOURISM

Zdzisław KORDEL
Academy of Physical Education and Sport in Gdańsk
e-mail: zdzislawkordel@wp.pl

Krystyna SENATOR-BENTKOWSKA
Motor Transport Institute in Warsaw
e-mail: krystyna.bentkowska@its.waw.pl

Abstract: *The Role of Polish Road Transport in Tourism*. An article points the characteristic of Polish road transport. It is a basic material for the practitioners of tourist marketplace that could be used to making tourist products where road transport plays a big role taking part in organizational and cost aspects. The last part of article shows deliberations of the road transport role in tourism.

Key words: road transport, tourism, the role of transport in tourism, practitioners of tourist marketplace, tourist products

* * * * * *

Introduction

The following article entails a detailed characteristics of Polish road transport of passengers and cargo. This knowledge is essential for all those who are dealing in tourism from both – the creation phase of new tourist products as well as their implementation phase. It is beyond any doubt that nowadays the road transport plays a very important and functional role in the economy of the country as well as it is also a key component of the cost of every tourist product or service. It is highly recommended that modern logistics systems were fully aware of the market's current potential with regards to road transport.

Road transport is used for many different purposes. Not only it is relied on in terms of hotel or restaurant supply chain realization but it is also a great transportation provider for both passengers and heavy loads.

1. Polish road transport after 1989

There are a few important dates in the history of Polish road transport, crucial for its further development, that can be distinguished:

Years 1989-1991 – the Act of Economic Activity of 23 December, 1988 that came into effect on 1 January, 1989 as well as the Act on Privatization of state-owned enterprises of 13 July, 1990 that became effective on 1 October the very same year, had definitely eliminated all the market barriers in both products and services sector. Therefore everyone was allowed to launch their own business and run it without any administrative limitations and quality or financial requirements.

These laws, though not directly and exclusively related to transport activities led to the ease of its commencement, without specifying the requirements of the new private carriers.

Years 1992-1997 – the period when the Road Transport Act (Journal of Laws no. 75 item 332) of July 26, 1991 was in force, there were many market barriers that made it difficult for prospective companies to enter this particular sector. Furthermore, within this period, licensing of international motor transport had been introduced causing an additional obstacle for a carrier to overcome. Some people claim, that the regulations were enforced in order to establish the situation in the transportation market, that had been deeply affected in the previous years. The carriers community, however, found the new regulations very restrictive. Thosev who had the intention to provide international transport services, after the year 1992 had to apply for the appropriate concession at the Ministry of Transportation and Aquaculture first and in the end it had been issued for a particular motor vehicle only and not the entire company. What is more, the Act contained many different conditions and requirements that had to be met by an applicant in the first place, such as proof of professional experience or financial guarantees for instance, so that he could finally receive the concession. Therefore between 1992-1997 the Ministry issued 23 250 concessions, where only 19 200 were entitled to provide services in all European countries whilst the rest of them were given a so called 'easily attainable package' that allowed providing services for selected countries only.

In addition, each motor vehicle, besides the concession, had to have a special permit, which allowed the entry of goods into the country or the transit through its territory. It should be noted, that the possession of a concession was not required for domestic transport of cargo and passengers.

Years 1998 - 2001. In order to regulate the problem of permits, the Ministry of Transportation and Aquaculture on 1 January, 1998 decided to introduce the quota concessions, which in practice resulted only in another ban of issuing new concessions. This meant a radical adjustment and a sudden limitation of access to the transportation market. In other words, this market had been temporarily closed to new entrants (in terms of international cargo), due to certain administrative barriers. This situation remained unchanged till the end of 2001.

Years 2002 - 30 April 2004. The fundamental Act for the Polish transport had been the Road Transport Act (Journal of Laws no. 125, item 1371) of 6 September that came into force on 1 January, 2002. This complex legislation regulated the principles of national and international road transport of passengers and goods, and was fully compliant with the regulations laid down in Council Directive 96/26/EC, as amended by Council Directive 98/76/EC. Generally, the law stipulated that the license (which replaced the previous international concession), both in national and international transportation of goods and people, could be obtained by any operator who presented a certificate of professional work experience, suitable financial guarantees, accurate car stock and a clean

criminal record. Licenses were issued for the company and there were no restrictions in obtaining a license extract in both domestic and international transport. It is worth to emphasize that previously the national carriage of goods did not have its "own" statutory and regulatory basis and it was performed based on an entry in the records of an economic activity.

1 May 2004 – E.U. accession. Any carrier engaged in the carriage of international goods and passengers had to have a community license, issued by the qualified authorities of the country. In Poland, the license could be obtained, provided that requirements listed in the Transportation Act had all been met and the professional work experience had been proved. Thus, European Community licenses replaced the previous licensing documents given to companies operating both things and people. The growing number of applications filed by international carriers, that tried to obtain community licenses, resulted in further changes like modifications of licenses issued for national carriers for example. What also needs to emphasized is that, on the basis of a community license and in accordance with Council Regulation EEC No. 881/92, all carriers were allowed to provide free (without authorization) carriage of goods by road between all Member States of the EU (known as large cabotage) as well as transport through their territories.

Generally speaking all the legislative processes concerning the implementation of relevant EU directives have led to a positive ending, where no carrier has a limited access to the market. However, it should be noted that, in accordance with the terms of the Accession Treaty, Polish road transport operators are not allowed to perform the services of small cabotage – in other words the carriage of goods – within another EU Member State within 3 years from 1 May, 2004 and extendable for further 2 years. On the basis of reciprocity, this prohibition applies to carriers of other EU countries who are also unable to carry out cabotage services on the territory of Poland. The freedom of EU cabotage has been regulated since 1998 by the Council Regulation EEC No. 3118/93.

The implementation of the aforementioned regulation along with the abolition of customs barriers within the EU has led to a dynamic increase in the number of Polish motor transport operators, both - trucks and buses. For example, on 1 May, 2004 – there were 8980 companies providing international transportation services of goods, with over 44 683 vehicles. On 1 January, 2006 these numbers were respectively 13 534 and 72 576.

Furthermore, the total number of companies providing international transport of people on the day of EU accession was 1 210 but on 1 January, 2006 it increased to 2 185.

One of the negative effects of the liberalization of regulations, was the over- supply of services in this market segment and a significant decline in prices for freight - an average of 30 %. Unfortunately, among the newly emerging forms of businesses, the majority were micro and small companies, which did not seem to be too promising, especially in terms of their financial condition and investment opportunities.

One of the key features of the motor transport that particularly distinguishes it from the rail transport is that the lack of direct connection between the transport equipment (traction) and the route of the vehicle (ground and power system).

What is more, road transport also features high efficiency, especially in terms of re-routing, door to door transport and service availability.

2. Characteristics of road infrastructure

Qualities of road transport can be revealed and developed only in conditions that are favorable to its operation, such as the existence of a specific infrastructure, that according to W. Rydzkowski can be divided into:

- linear-type, which is based on the existing road network, defined as any separate lane (intended for moving or parking vehicles), along with the objects within its

range, such as parking bays or technical equipment related to maintenance, security and traffic handling, as well as road management related equipment,
- point-type, consisting of objects aimed for operation of:
  - passengers: bus stations and bus stops,
  - cargo: sites, trans-shipment sites, ramps, etc.

Logistics centers and warehouses along with professional equipment and logistical support are also considered as point-type infrastructure.

Road network is composed of the following elements:

Public Roads – which are divided according to such criteria as:
- function in the road network:
  - national roads (including motorways and expressways)
  - state roads
  - district roads
  - municipal roads
- type of surface:
  - hard surfaced road (improved and unimproved)
  - ground(gravel) surfaced roads

National Roads include:
- international routes,
- public access roads to the border crossing points, serving international traffic, people and cargo,
- alternative routes to paid motorways
- other (e.g. large metropolitan ring roads).

Table 1. Condition of public roads as of 31.12.2006

Road types	Total		Hard surfaced		Not improved
			including		
			total	improved	
	%	in km			
Total	100.0	382,615	255,543	229,249	127,072
including:					
share %	x	100.0	66.7	x	33.3
National	4.8	18,439	18,414	18,404	25
including:					
share %	x	100.0	99.8	x	0.2
State	7.4	28,504	28,441	28,401	63
Including:					
share %	x	100.0	99.8	X	0.2
District	33.4	127,722	114,417	109,321	13,305
including:					
share %	x	100.0	89.5	x	10.5
Communal	54.4	207,950	94,270	73,123	113,680
including:					
share %	x	100.0	45.3	x	54.7

National roads are marked with two digits. Motorways are marked with the letter A and a number, while the expressways with the letter E and a number.

State roads are those which form connections between the cities and are relevant to the states. They are marked with three digits.

Districts roads connect the cities, where the seats of districts are located as well as the seats of municipalities.

Communal roads, however, include all the local roads (no internal roads). The difference between an improved hard surfaced road and a hard surfaced but not improved road is in the type of building material that is used.

Speaking more precisely, the first one could be made of the cube stone, clinker, concrete, bitumen, or stone and concrete panels, whilst the other one is just covered with gravel or road grit.

The total length of public roads (Table 1) at the end of 2006 was about 38.2 thousand kilometers, that is only 0.3 % more than in the previous year.

The best way to evaluate the road network in Poland is to compare its density ratio to a similar density ratio in EU countries, which have the status of well-developed in terms of infrastructure. Thus, in 2002 for instance, the density ratio of roads in selected EU countries was as follows:

- Belgium – 488 km/100 km²
- The Netherlands – 280/100 km²
- Italy – 271 km/100km²
- Switzerland – 172 km/100 km²
- Great Britain – 170 km/100 km²
- Czech Republic – 162 km/100 km²
- France – 147 km/100 km²
- Poland – 119 km/100 km²

Hard surfaced roads were almost 77 % of the total, and the remaining 33 % were the ground/gravel type roads. A little more closer look at the roads in Poland and the numbers in total does not bring satisfying results. For instance, in 2002, national roads were only 5 % of roads in total, state roads a little above 7 %, while district roads were more than 33 %. According to this data, the biggest share – 54 % – belonged to communal roads, which on the other hand, had the lowest functional parameters. What is more, it should be noted that this dominant group in almost 55 % is represented by ground type surfaced roads.

The table no. 2 below illustrates the trends in this period.

Table 2. Hard surfaced roads in the years 1990-2006

Years / Description	1990	1995	2000	2001	2002	2003	2004	2005	2006	2006 /1990
Hard surfaced public roads - in km	218 422	237 153	249 828	248 303	250 291	48 786	252 273	253 781	255 543	1,17
including: highways - in km	212	246	358	337	405	405	552	552	663	3,13
- share in the total of hard surfaced roads - in %	0,10	0,10	0,14	0,13	0,16	0,16	0,22	0,22	0,26	x
Including improved roads – in km	182 900	195 966	205 637	212 489	220 586	219 686	224 441	227 250	229 249	1,25
- share in the total of hard surfaced roads - in %	83,73	82,63	82,31	85,58	88,13	88,30	88,97	89,55	89,71	x

The improved road surfaces in 1990 were about 84 % of the total number of roads being covered with hard surfaces,. However, in 1995 their share decreased to 82.6 %, and then gradually kept decreasing till in 2006 it reached 89.7 %, which still was not a condition that could be considered as satisfactory.

On the other hand, the length of motorways increased during the analyzed period more than three times and in 2006, compared to the previous year, it increased by 111 km, that is by about 20 %. The length of motorways per 1000 km² of the country was therefore more than 2 km, and so the ratio was 2km of motorways per 100 thousand people. In comparison, the aforementioned ratio was much more bigger in all other EU countries and it varied between 13 to 15 km. This only proves that the index for Poland was one of the lowest in Europe.

Table 3. Highways in selected EU countries in 2003

Country	Km/100 thousand inhabitants	Km/1000 km2
Total	13	15
The Netherlands	16	71
Germany	17	57
Slovenia	24	24
Portugal	19	22
Italy	11	22
Spain	25	20
Great Britain	6	15
Czech Republic	5	7
Slovakia	6	6
Poland	1	1

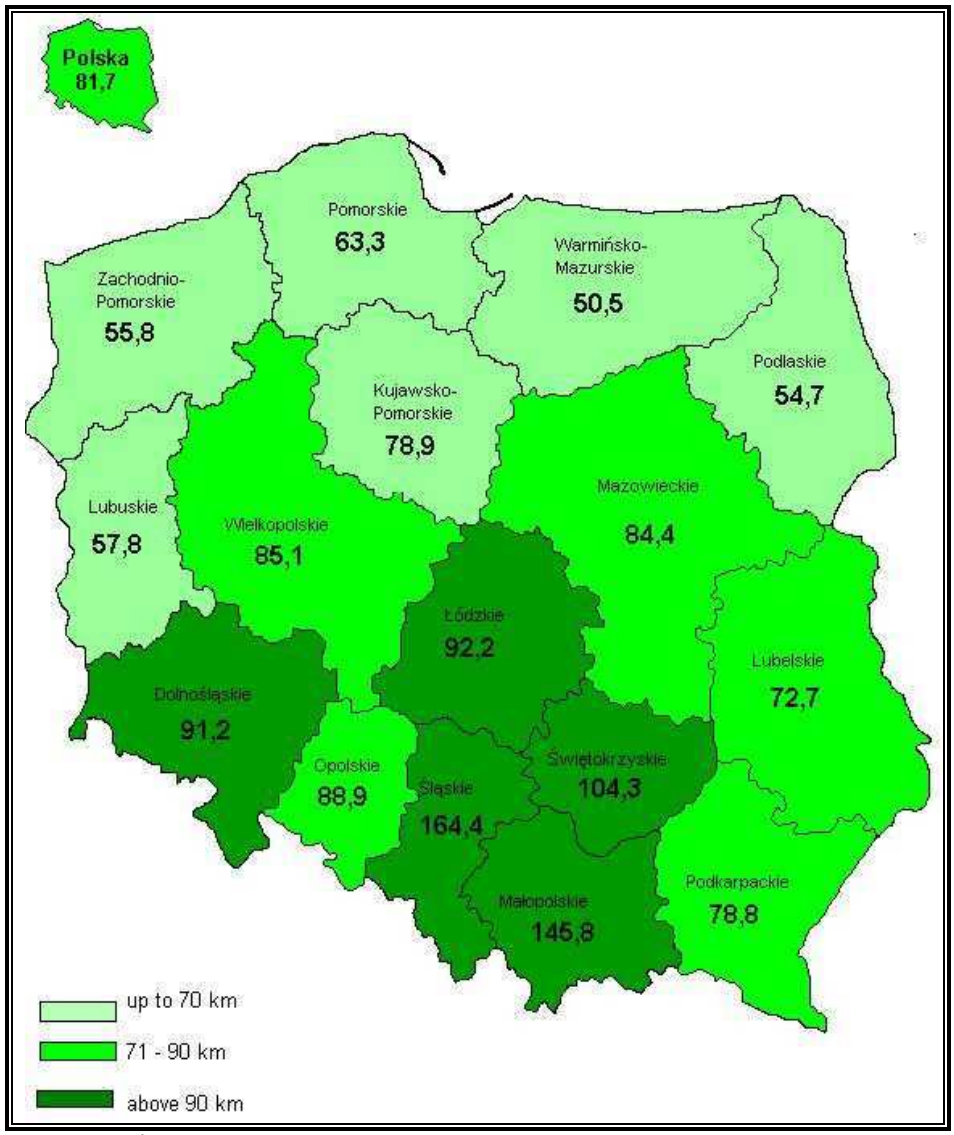

Figure 1. Hard surfaced public roads per 100km2 as of 31.12.2006

The total length of expressways is also very low. In 2006 for example, it was approximately 297 km and one year later, it increased only by another 40 km. The total length of national roads in 2006 amounted to 18,439 km, where expressways and motorways were only 960 km long, that is 5.2 %.

Location of roads in Poland is very uneven. Table 2 and drawing 1 present a comparison of hard surfaced roads, their length and density across the country in 2006.

According to the data given and taking the length factor in consideration, we can clearly see that most of the hard surfaced roads are to be found in the following regions: Mazowieckie, Wielkopolskie, Małopolskie, Śląskie, and the least in Lubuskie. The states, however, are all of very different sizes and therefore the most efficient indicator to use in order to obtain the most accurate results is - the density of roads per 100 km2 index. The highest value of this indicator is present in the south of Poland. The states with the lowest rates are: warmińsko-mazurskie, podlaskie and also states in north-western region of Poland.

Table 4. Hard surfaced public roads in 2006

State	Total			Including	
	in absolute values	per 100 km²	national roads	expressways	highways
Poland	255,543	81.7	18,414	297	663
Dolnośląskie	18,200	91.2	1,319	8	150
Kujawsko-pomorskie	14,174	78.9	1,041	35	-
Lubelskie	18,263	72.7	1,056	4	-
Lubuskie	8,079	57.8	839	17	-
Łódzkie	16,804	92.2	1,345	-	75
Małopolskie	22,073	145.0	1,023	3	59
Mazowieckie	30,032	84.4	2,355	38	-
Opolskie	8,363	88.9	794	-	88
Podkarpackie	14,127	78.8	772	-	-
Pomorskie	11,582	63.3	833	39	-
Śląskie	20,216	164.4	1,119	85	73
Świętokrzyskie	121,289	104.3	759.8	24	-
Warmińsko-mazurskie	12,231	50.5	1,328	3	-
Wielkopolskie	25,396	85.1	1,726	13	195
Zachodniopomorskie	12,782	55.8	1,128	28	22

The condition of roads has been gradually deteriorating over the past years thus threatening the safety of road transport. Furthermore, in most cases, due to road works, sections excluded from traffic and many detours, the average travel time has increased as well.

There are plenty technical reasons for poor road conditions in Poland. First of all, what should be noted is that there has been an increase in traffic volumes.

In 2005 for instance, the total number of cars on international roads amounted to 13.8 thousand, on national roads it was less than 6 thousand vehicles per day while in the year 2000 the numbers were respectively: 11.4 thousand and 5.1 thousand vehicles per day.

Congestion on state roads in Poland is 2,812 vehicles a day and its value lies in the range of 1,526 vehicles a day in the region of Warmia and Mazury and up to 4,377 vehicles a day in Małopolska region. The passage with the greatest daily congestion is to be found Mazowieckie. More precisely, it is the road no. 719, between Pruszków and Warsaw, with approximately 42,756 vehicles a day. Another passage with one of the largest traffic volumes in our country is the road no. 376, between Wałbrzych and Szczawno with over 25,960 vehicles a day.

According to EU standards, the maximum allowable pressure is 115 kN/axle, and only 667 km of roads in Poland meet these criteria. Unfortunately, most of the roads are capable to withstand the pressure of 80-100 kN/axle only.

As a result of EU policy, the number of better roads is rising and their standards are gradually improving. For example, at the end of 2001their length was 445.6 km (including 355 km of roads of the TEN-T) and by the end of 2004, it increased to 778 km (that is 8 % of national roads).

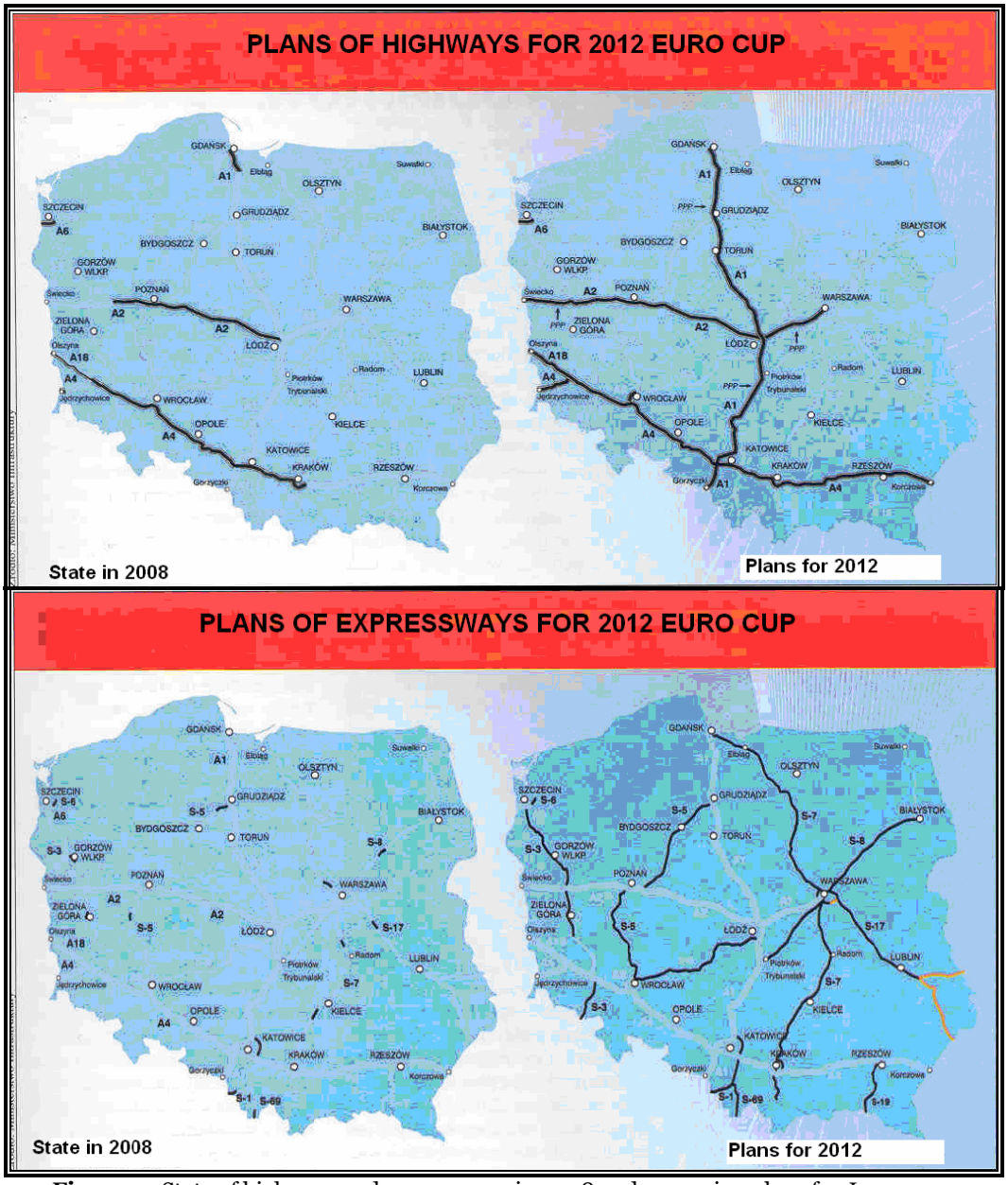

Figure 2. State of highways and expressways in 2008 and expansion plans for June 2012.

Technical condition of national roads' surfaces has been monitored since 1990 by the Pavement Condition Evaluation System (SOSN – polish name). According to their research, in 2005 about 48.9 % of all surfaces were in good condition, 26.2 % were in poor shape and the state of 24.9 % was bad. The data show only a slight improvement when compared to

the previous year. Therefore, in order to prevent the roads from deteriorating, actions have been taken by the General Directorate for National Roads and Motorways (GDDKiA – polish name) and road modernizations and repair works have been started instead.

The formation of the potholes as well as worsening of their depth have recently become very serious problems of the Polish roads, especially that their existence affects the general safety of the roads. The potholes may be caused by either an extreme increase of intensity of movement or simply by the poor quality of materials used to repair pavement (due to the cost reduction process).

These examples illustrate the fact that the improvement of road network in Poland is a priority and has to be taken care of as soon as possible. It will definitely help to reduce the differences in the level of regional economic development and, above all, to create opportunities to increase the international competitiveness of the economy (e.g. fluent transit through Poland, shortening the travel time), a significant reduction in the number of accidents as well as lead to a decline in harmful environmental or social effects.

Government investment plans for the roads are wide-ranging, but unfortunately, the current investment policy of the country is not conducive to dynamic development of Polish infrastructure.

The current methods of financing road contracts, legislative restrictions, and no regulation regarding the absorption of EU funds are the biggest legal and organizational barriers impeding the implementation of plans in this regard.

Figure no 2 presents the state of the main roads in 2008 and their expansion plans for 2012.

3. Characteristics of Polish road transport

The motor rolling stock of road transport, besides the infrastructure, is one of the most crucial elements of road transport, having a great impact on the functioning of the road transportation system in a country. Generally speaking, motor rolling stock can be defined as self-propelled (cars, tractors) or pulled (trailers and semitrailers) transportation equipment that moves on wheels.

Due to the nature of transportation needs that have to be met, the rolling stock is divided into:

1) commercial type(commercial services),

2) economic type(for meeting particular needs of the individual).

With regard to the types of vehicles used, rolling stock can be divided into heavy-load or bus type. On the other hand, the possession status of the vehicles can be expressed in vehicle-days or more precisely in vehicle-hours.

Vehicle day is a quantitative measurement unit of motor vehicles, including the time of rolling stock possession.

Vehicle hour is a quantitative measurement unit of motor vehicles, including the time of rolling stock possession (this unit of measurement gives results in exact hours).

Kilometers per vehicle - this indicator provides a measure of vehicle productivity. Kilometers per vehicle are influenced by operating speeds, idle to running time ratio, and hours of operation each day. What is more, the above indicator also distinguishes other indicators that influence the whole transportation process, e.g. mileage utilization rate.

The mileage of the rolling stock can be divided into the following types:

1) 'loaded mileage' – that is the distance made by a loaded vehicle or vehicle with passengers;

2) 'zero mileage' – that is the distance traveled by the vehicle between the depot and the place of the start (or completion) of work as well as all the distance traveled that was not related with the realization of the transport cycle (e.g. to retrieve the fuel, to visit the service area etc).

3) 'empty mileage' that is the distance traveled by a vehicle without cargo, or passengers, after work completion or after carrying the load.

The average technical speed is calculated by dividing the technical distance covered [in km] by the driving time [in hours].

The average operating speed is calculated by dividing the distance traveled [in km] by driving time and time stops. This indicator is very much dependant on the technical speed, time spent on stops when traveling as well as time spent in communication points.

Mileage utilization rate is the ratio of the loaded mileage of the rolling stock to the mileage in general. The size of this coefficient, which indicates the loss caused by unproductive distance traveled (no load), that is 'zero' and 'empty mileage'.

In regular passenger carriage, such as bus services, or in regular freight carriage the aforementioned losses may also occur but they are caused by 'zero mileage' only. On the other hand, with regard to one-way carriage, losses occur and are caused by both types of mileage: zero and empty. For services provided to small distances (since it is more difficult to arrange a loaded mileage for the return trip) the rate of mileage utilization is generally lower than for long-distance transport.

The capacity of the rolling stock is the number of total passenger seats in all buses and trailers of a particular bus.

The total number of motor vehicles between 1990-2006 and their dynamics, along with the number of heavy duty vehicles, cars and buses have all been presented in Table 5.

Table 5. The number of vehicles in the years 1990-2006

Description	Years								
	1990	1995	2000	2001	2002	2003	2004	2005	2006
Registered car vehicles (in thousands)	9 041	11 186	14 106	14 724	15 525	15 899	16 701	16 816	18 035
Dynamics 1990 = 100,0	100,0	123,7	156,0	162,3	171,7	175,8	184,7	186,0	199,0
including: passenger cars	5 261	7 517	9 991	10 503	11 020	11 244	11 975	12 339	13 384
Dynamics 1990 = 100,0	100,0	142,9	190,0	200,0	209,6	213,7	227,6	234,5	254,4
Trucks [a)]	1 045	1 354	1 879	1 979	2 163	2 313	2 392	2 305	2 393
Dynamics 1990 = 100,0	100,0	129,6	179,8	189,4	207,0	221,3	228,9	220,6	229,0
Buses	92	85	82	82	83	83	83	80	83
Dynamics 1990 = 100,0	100,0	92,4	89,1	89,1	90,2	90,2	90,2	87,0	90,2

The total number of motor vehicles as well as tractors at the end of 2006 was more than 18 million, which means almost a twofold increase since 1990.

The number of heavy goods vehicles have also increased twice during this period and their number in 2006 amounted to 24 million (including tractors). What is worth mentioning is that, the number of tractors has increased significantly over the years, that is by 15.6 % in the last year compared to the previous whereas at the end of 2006 it came up to 146.4 thousand.

This situation has been caused mainly by rising demand for these means of transport due to the overall expansion of transportation companies that carry out international services. On the other hand, according to CSO the age structure of heavy goods vehicles (excluding tractors) has deteriorated.

It can be easily noticed, especially when we compare the market share of particular vehicles with their age. For instance, in 2005 about 27 % of cars operated were of 'up to 5 years' and in 2006 this ratio was only 22 %. At the same time, the number of much older cars increased rapidly and about 53.5 % of all operated vehicles were of 11 years or older. In addition, it is worth to mention that the share of vehicles with petrol engines was about

35 % of the total, diesel – 53 % and supplied with other sources of energy, like LPG for example, was over 11 %.

In 2006, more than 83 thousand buses were registered which definitely implies a systematic reduction in their numbers, especially in comparison with 1990. The total number of buses with a capacity of 45 seats amounted to nearly 56 %. However, the age structure of these vehicles remained at a level similar to the previous year, which means that the coaches of 5 years were about 11 % of total, those between 5-10 years – 17 %, and those of 11 years or over - about 72 %.

Another very special group of vehicles are private cars. Their number increased more than twice in the analyzed period and reached almost 13.4 million. Compared with the previous year, the increase was 8.5 %.

The age structure of passenger cars, however, has deteriorated over the past years. More precisely, the youngest group of 'up to 5 years' cars was only about 11 % while vehicles of 11 years and older reached more than 63 %. When it comes to diesel engine vehicles, their numbers have increased, especially when compared to the number of petrol engine cars that dropped down to 71 % of total. Vehicles with engines powered by some unconventional sources of energy, like LPG for example, increased their market share to about 16 %.

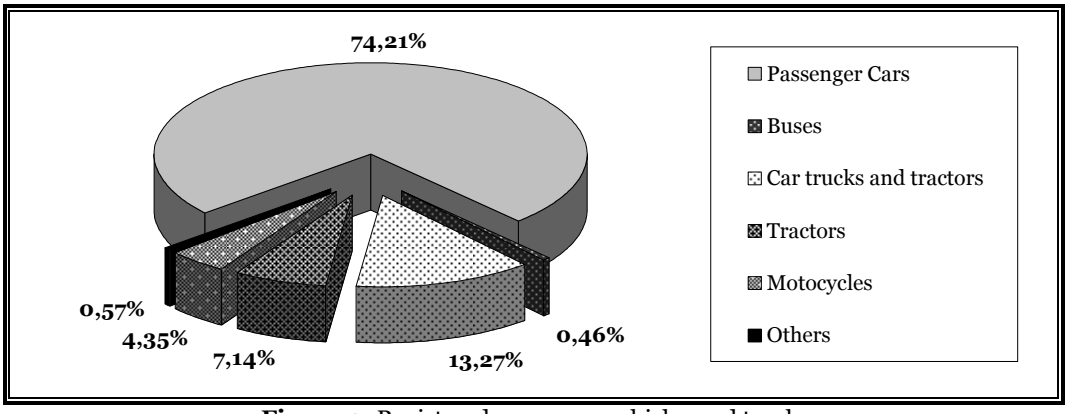

Figure 3. Registered passenger vehicles and trucks

A better picture of the dynamics of the car industry in Poland is given by the number of vehicles per 1,000 people ratio rather than looking at their total number. They are shown in the figure no. 4.

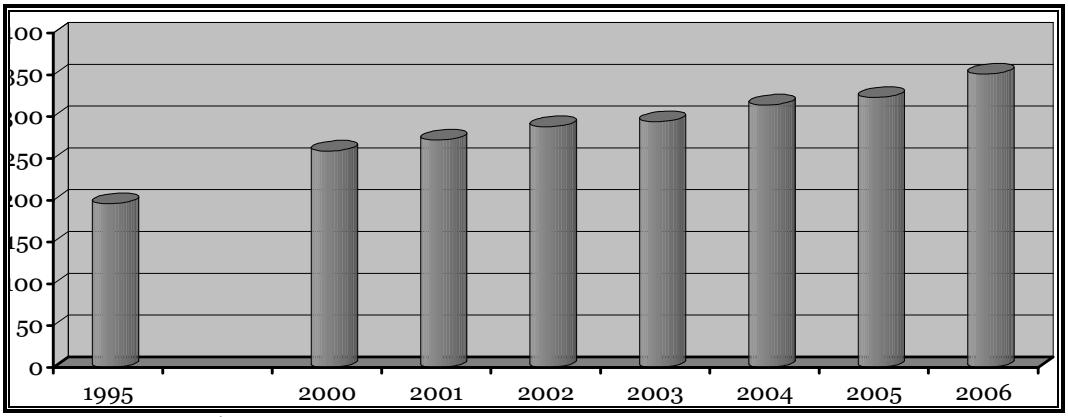

Figure 4. The number of passenger cars per 1000 inhabitants

Despite the regular increase of passenger vehicles per 1000 inhabitants, the rate in Poland is still one of the lowest in the EU countries. The aforementioned rate in all 25 EU countries in 2005 was - 476 cars whereas in Poland, it was only 323. Undoubtedly, this state is somehow reflecting the level of the living standards of Polish society as well as confronting it with other countries and the relative prices of vehicles in relation to other goods. For instance, the number of vehicles per 1000 inhabitants in 2004 in some of EU countries was as follows: Italy - 591 cars, Germany - 545 cars, France - 495 cars, Spain - 447 cars, Slovenia – 469, Bulgaria - 316 and Poland - 314 cars.

The number of cars per each state can also vary. The most vehicles are registered in the Mazowieckie Region - 2.8 million, Śląskie - 2.0 million, Wielkopolskie - 1.8 million. On the contrary, the fewest passenger vehicles are registered in the region of: Podlaskie- 0.6 million and Lubuskie - 0.5 million.

Figure no. 5 illustrates the number of vehicles in various states in 2006.

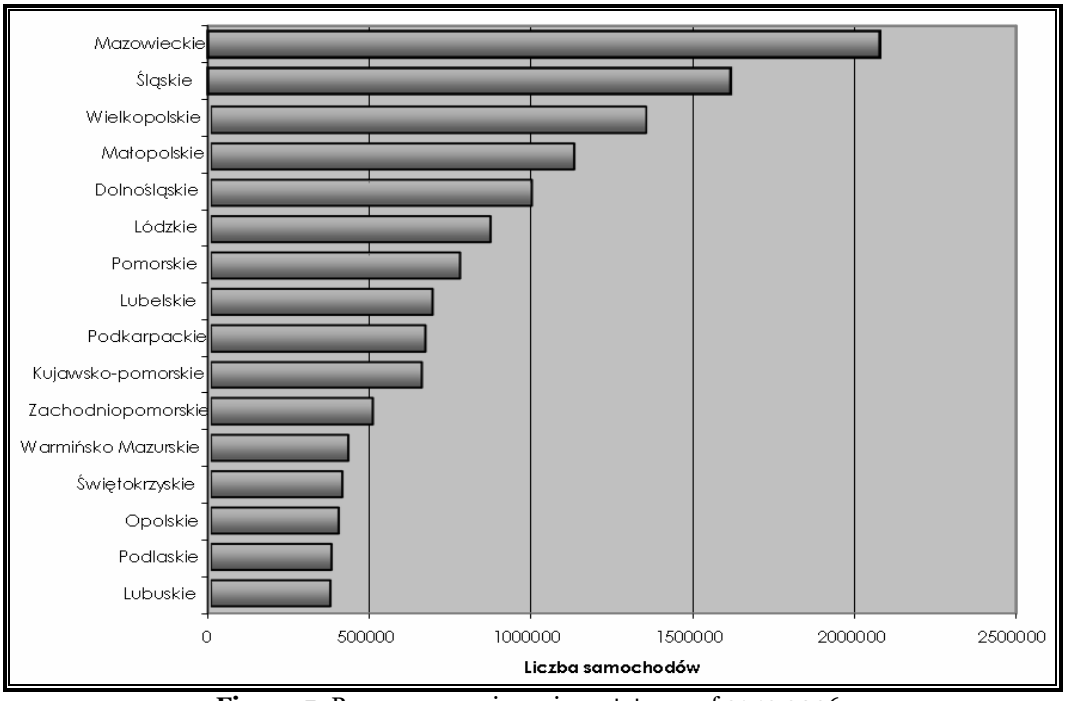

Figure 5. Passenger cars in various states as of 31.12.2006.

One of the best ways to determine the number of passenger vehicles in particular states is to estimate the number of cars per 1000 inhabitants ratio. Below please find a picture showing the results.

States with the biggest number of vehicles are: wielkopolskie - 403 cars and Warsaw - 402 cars. The lowest rates occur in the zachodnio-pomorskie region and warmińsko-mazurskie region - 300 cars.

Domestic passenger market is relatively the least recognized segment of road transport due to the lack of statistics with regards to the number of companies and vehicles, as well as relevant provisions regulating their operation. The Act on Road Transport of 6 September, 2001 (Journal of Laws no. 125, item 1371) finally regulated the domestic and international carriage of passengers and goods.

Therefore, by means of this Act, all the licenses for national road transport of passengers or goods are provided by a foreman in the seat of the operator. The applicant

is granted with the privilege of performing transportation services if all the conditions laid down in the article 5. 3 of this Act are fulfilled.

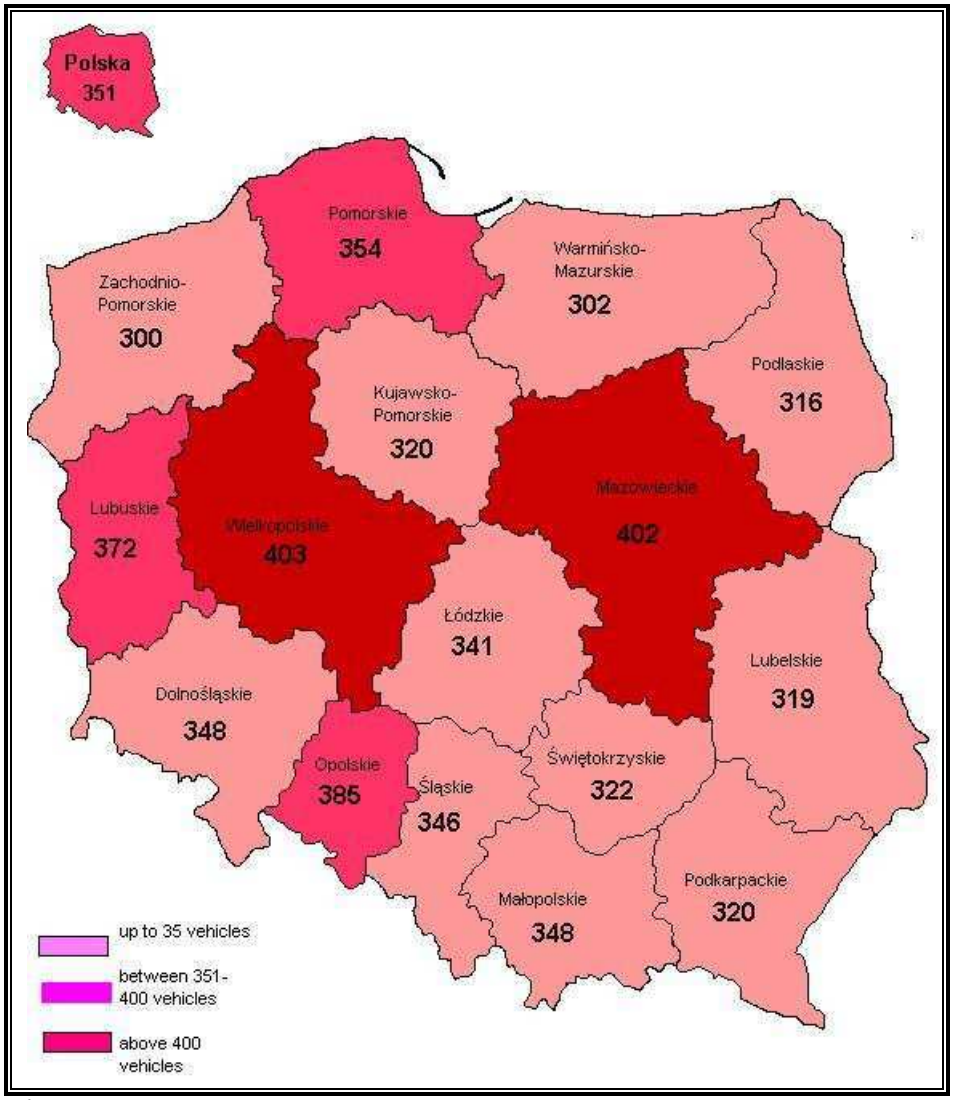

Figure 6. The number of passenger cars per 1000 inhabitants in various states in 2006.

The Act came into force on 1 January 2002, however, the data for the years 2002 and 2003 were so incomplete that they could not be referred to. In 2004, the number of licenses for the transportation of people was about 7 thousand, in 2005 it increased to 7.8 thousand and the number of extracts (for each vehicle) was 49.8 thousand. This means that the average company possessed about 6.4 cars. In 2006, the number of licenses increased to 8.2 thousand, that is by 5 % and the number of extracts increased to 51.2 thousand, that is by 2.6 %. The number of vehicles available to the average firm was therefore approximately 6.2 vehicles.

Carriers providing bus or coach services need to obtain licenses as well. Others that are engaged in the carriage of people by vehicles designed to carry between 5 and 9 people are also required to have the relevant qualifications.

The carriers with licenses for domestic carriage services very often decide to obtain a community license which gives them better opportunities and a greater chance to attract customers, as a result of constant development, migratory flow, or other tourist reasons.

Entrepreneurs who were engaged in international passenger transport services before the EU enlargement, had to apply for new licenses so that they complied with the new regulations, effective after 1 May, 2004.

Table 6 illustrates the state and development of international transport of people.

Table 6. The number of licenses in international transport of passengers in years 1997-2006

Years – condition as of 1 January	Vehicles in total	
	number	increase in comparison to the previous year in %
1997	4 559	X
1998	5 101	10,9
1998	6 354	24,6
2000	6 841	7,7
2001	5 268	-23
2002	5 780	9,7
2003	6 337	9,6
2004	7 118	12,3
2005	6 688	-6,04
2006	7 450	11,4
2007	9 303	24,9

Table 7. The number of licenses in international transport of passengers according to vehicle types

Years – condition as of 1 January	Licenses			Types of vehicles			Average number of vehicles per company		
	buses	small vehicles	total	buses	small vehicles	total	buses	small vehicles	total
2004	6 114	1 004	7 118	.	.	2 820	.	.	2,5
2005	5 492	1 196	6 688	1 829	738	2 567	3,0	1,6	2,6
2007	7 824	1 479	9 303	2 530	785	3 315	3,1	1,9	2,8

The above data shows that the market of international passenger services is very scattered. The average number of vehicles per company that provides bus services are 3 vehicles. On the other hand, the number of small vehicles in an average company ranges from 1.3 to 1.9 vehicles. Thus, between 2004 and 2007, the average company was in the possession of nearly 3 vehicles.

According to the report prepared by the Ministry of Infrastructure, the number of companies possessing licenses for providing transportation services was as follows:

- about 40.5 % of all companies possessed 1 license and approximately 14.4 % had extracts of the license;
- about 45.8 % of all companies possessed between 2-4 licenses and approximately 42.1 % had extracts of the license;
- about 10.4 % of all companies possessed between 5-10 licenses and
- approximately 24.2 % had extracts of the license;
- about 2.7 % of all companies possessed between 11-20 licenses and approximately 13.1 % had extracts of the license;
- about 0.5 % of all companies possessed between 21 – 50 licenses and approximately 4.9 % had extracts of the license;
- about 0.1 % of all companies possessed over 50 licenses and approximately 1.2 % had extracts of the license.

The largest group of entrepreneurs are those who are fitted with 2, 3 or 4 licenses, which means that almost 46 % of companies are equipped with 2-4 buses, giving the total

number of 9 303, which is more than 42 % of total. In addition, the above statement shows that about 60 % of buses (14.4 % and 42.1 %) are owned by the companies employing up to 9 people, and therefore not included in the CSO statistics.

In 2006, the number of buses amounted to approximately 83 thousand units, where about 23.5 % of the total were operated for commercial purposes. This means that most buses were in the possession of companies performing commercial services and employing more than 9 people.

Table 8. Transport of passengers in the years 1995-2006.
Source: Summary based on "Transport - the results of operations", COS, Warsaw.

Description	1995[2)]		2000		2005		2006		Average travel time in km	2006/ 2000
	mln	structure %	mln	structure in %	mln	structure in %	mln	structure in %		
Total Including:	1 132	100,0	995	100,0	782	100,0	751	100,0	37	0,78
- international	1,4	0,1	1,8	0,2	3,0	0,4	2,9	0,4	1222	1,61
- national regular Including:	999	88,3	829	86,8	671	85,8	643	85,6	35	0,77
- single-use	380	33,6	402	42,1	306	391	283	37,6	50	
- irregular Including:	133	11,7	126	13,2	67*	8,6*	66*	8,8	28	.
holiday	22	1,9	34	3,5	44*	5,6*	42*	5,6	89*	.

1) companies employing more than 9 people (*in 1995, companies employing more than 5 people)
2) excluding municipal transport

Regular bus communication was carried out on 24.9 thousand national communication lines with the total length of 1 246.8 thousand kilometers whereas international carriage was carried out on 0.3 thousand kilometers of international lines with the total length of 583.4 thousand kilometers.

When it comes to the type of communication lines in Poland, they are definitely dominated by national suburban lines, that are almost 75 % of lines in general and their length comes up to 573 thousand kilometers. The total length of roads, however, has almost remained unchanged since the year 2000.

The public sector played a significant role in bus transportation. In 1995 for example, its share in the general transportation of passengers was almost 92 %, in 2000 - almost 93 %, in 2005 it decreased to 60.5 % and in 2006 it decreased again to the level of about 58 %, which indicates a regular decline in its dominant position.

Generally speaking, public sector carriers operate in the least profitable market segment, which includes all regular services, like discounted transportation tickets for instance, which are provided for schoolchildren or seniors. What is more, public sector includes mainly national communication lines thus its participation in international communication services was only about 25 %.

According to the definition, public services shall be commonly available and provided to the public in the interest of social and economic development. They should be organized by the authorities through the system of public procurement, aimed at the commercial carriers. On the other hand, unprofitable or loss generating services like school tickets for example, should be subsidized and supported by the government.

During the formation period of free-market economy in Poland, the position of PKS corporation - the biggest polish public transport provider - began to fall, as many new, small private companies started to arise. What is more, they eventually took over the most profitable market segments: international and occasional transportation services. The largest number of private entities operating in the tourist market are small businesses having between one and two buses.

After a period of stagnation in the tourist sector, privatization processes became a very common phenomenon, especially that they seemed to be a perfect weapon against western competition that slowly began to enter the Polish market.

On the other hand, reduction in public transportation figures was also caused by a sudden increase of individual means of transport. According to the definition given by E. Menes, we can start to observe the public transportation decline as soon as the motorization index is between 50-80 cars per 1000 people.

In Poland, in 1995 the aforementioned index was already at the level of 196 cars per 1,000 people. Therefore it can be concluded that all the changes that had taken place back in the nineties, affected the economic and financial viability of public transport by a fall in the number of passengers as well as quality deterioration of provided services.

However, due to the negative phenomena of congestion in Poland along with the poor condition of roads across the country, steps should be taken in order to reduce the use of private cars. Such projects should include the ideas like the following: creation of parking areas around the cities (the type of park & ride), raising the standard of public transport (safety, punctuality, speed), which is associated with substantial financial resources both in terms of modernization and an exchange of motor rolling stock, as well as improvement of the technical state of roads and their density, including expressways and highways.

Supporting and increasing the effectiveness of the international transportation market is of a great importance, especially in terms of international passenger carriage, where the competition is really strong and foreign carriers are a serious threat. It is easy to notice it just by comparing the figures of Polish and foreign buses crossing the border, respectively, vehicles leaving Poland and vehicles coming to Poland (Tables 9 and 10).

Table 9. National buses leaving Poland in the years 1998-2006

Years	Border				Total
	eastern	southern	western	sea	
1998	16 501	47 432	33 099	666	97 698
1999	10 744	49 505	30 781	720	91 750
2000	11 093	61 075	39 242	790	112 200
2001	12 620	64 010	38 074	878	115 582
2002	16 612	58 985	37 539	977	114 113
2003	19 019	50 820	36 897	940	107 676
2004	21 929	52 912	40 339	996	116 176
2005	26 849	52 304	48 218	1 261	128 632
2006	27 382	51 243	52 112	1 172	131 909

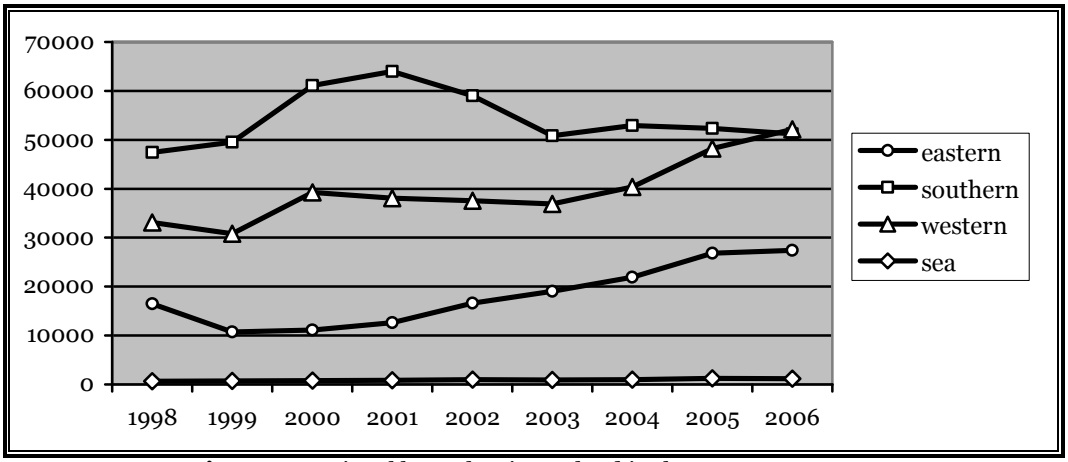

Figure 7. National buses leaving Poland in the years 1998-2006

Table 10. Foreign buses entering Poland in the years 1998-2006

Years	Border				Total
	eastern	southern	western	sea	
1998	69 075	44 564	32 801	1 103	147 543
1999	66 633	38 730	35 702	1 127	142 192
2000	70 684	37 395	38 282	1 261	147 622
2001	69 289	31 131	40 512	1 370	142 302
2002	68 572	30 293	40 113	1 280	140 258
2003	67 247	29 939	36 492	1 305	134 983
2004	67 849	35 295	38 311	1 166	142 6
2005	73 661	35 760	44 110	944	154 475
2006	69 312	37 750	43 891	769	151 722

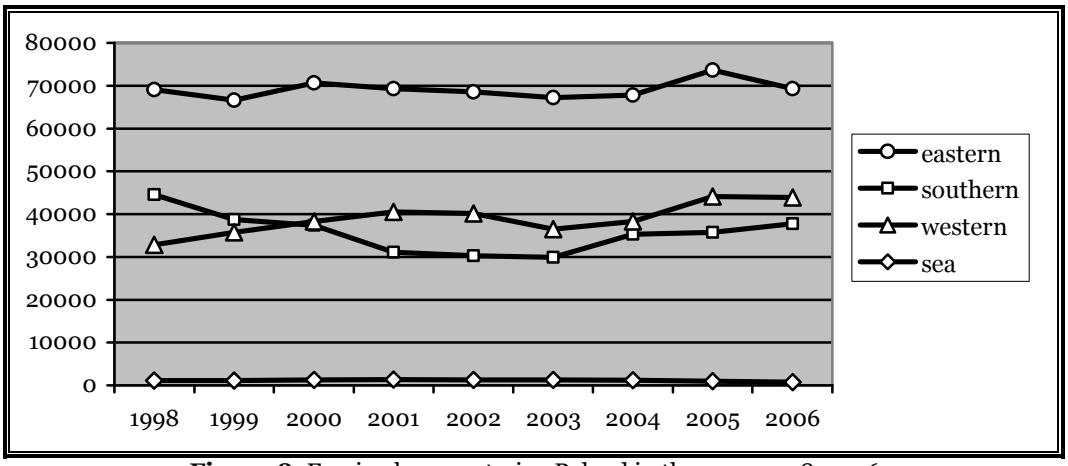

Figure 8. Foreign buses entering Poland in the years 1998-2006

Overall, the number of buses crossing the border of Poland increased in 1998-2006 by 34 thousand vehicles, that is by 35 %. The largest share of the total border crossing in 2006 were registered - on the western border – 39,5 % and on the southern border - 38.8 %.

The volumes of Polish transport (with regards to the companies employing more than 9 people) are rather uneven in comparison with particular countries. In 2006, the total of 2865 million people were transported to the countries such as: Germany - 39.9 %, UK - 10.4 %, Italy - 8.5 %, France - 6.7 %, Czech Republic - 6.2 %, Ukraine - 4,8 %, The Netherlands - 3.8 %, Austria - 3.8 %, Belgium - 2.8 %, Ireland - 0.2 %.

On the other hand, the number of foreign buses crossing the border to Poland during this period increased by 4 thousand vehicles, that is by almost 3 %. The largest number of border-crossing was registered on the eastern border with the amount of 45.7 % of the total in 2006, and this figure has remained at an almost unchanged level. The number of border-crossing in the south region had decreased in relation to 1998, and in the next few years, with some periods of decline, achieved the status from 1999.

Talking about international transport we cannot forget the individual transportation sector, especially that the figures in this segment of traffic are really significant. In 2007, for instance, Polish passenger vehicles (along with the motorcycles) crossed the border lines almost 11 million times, including more than 4 million from the south and similarly from the west.

It can be assumed that large, properly equipped transportation companies with secure and modern motor rolling stock have huge chances of gaining new customers among those who so far have been using their own means of transport. All they need to do is provide them with a competitive offer on easy terms.

Undoubtedly, ever since the Schengen Agreement came into force (December 2007)no statistics on border-crossings have been carried out. However, this does not change the fact that the competition between domestic firms and foreign ones is still alive and will surely keep on going.

4. The use of road transport in tourism.

The detailed characteristics of Polish road transport presented above is just another proof of its importance for the entire tourism sector. In other words, since this sector is playing such a vital role in the creation processes of different tourist products, it must have a full idea of the road transport potential and all its quantitative and qualitative aspects related with creation and implementation phases. What is more, the market of road transport in Poland is very dynamic and therefore it needs to be monitored systematically in order to observe its evolution, as well as the trends for the forthcoming years.

According to the Warsaw Institute of Tourism the number of travelers will keep on increasing until 2013.

Figure no. 9 presents the estimated number of travelers in the forthcoming years.

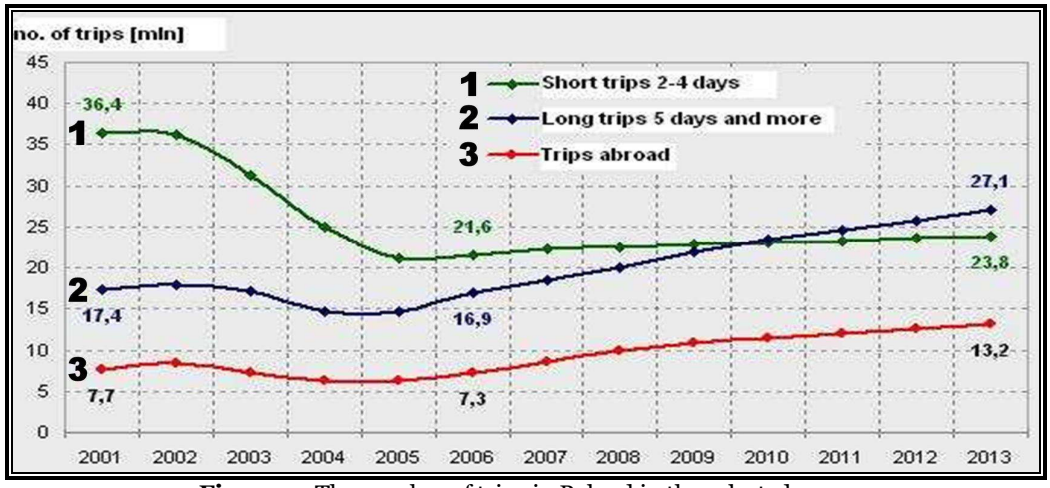

Figure 9. The number of trips in Poland in the selected years

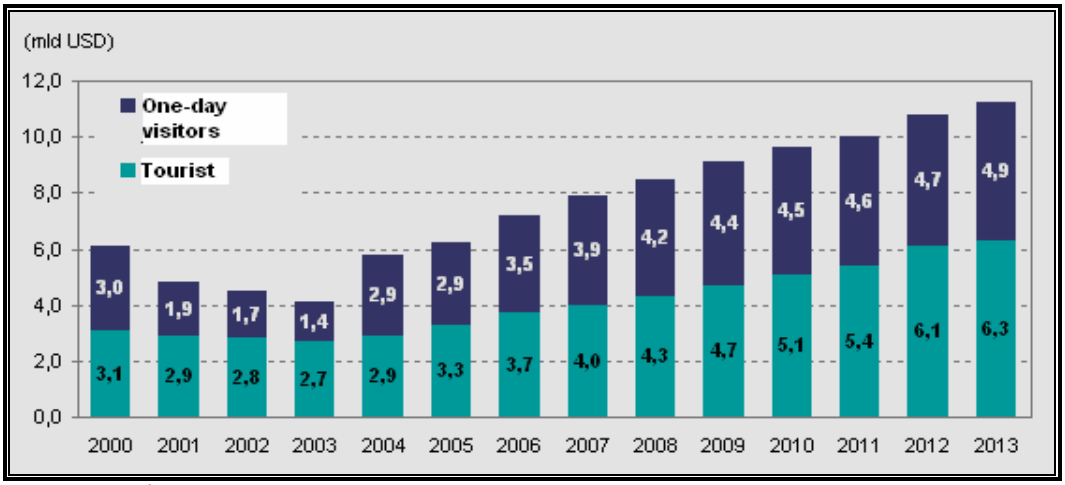

Figure 10. The estimated income driven by tourists and visitors until 2013.

According to the above forecasts an increase in the number of traveling people is expected and most likely it will concern private cars or buses. One of the reasons for such a significant increase may be the fact that Poland will host the 2012 Euro Cup. This sport event will definitely attract many visitors and therefore result in a great number of foreign tourist arrivals to Poland, that is why transport by road will be probably most commonly used.

Figure 10 presents the forecast of the estimated income to the budget until 2013 as a result of foreign arrivals, tourists and visitors.

The above figures indicate unmistakable increase in the number of travelers among Polish residents as well as an incline in the number of foreign visitors. Therefore, in order to meet these forecasts still a lot has to be done. First of all, Poland has to take necessary steps in order to lift up the current standards and provide the best quality of vehicles for a relatively good price.

The phenomenon of growth in the tourism sector (both Polish citizens and foreigners) inseparably features the creation of new tourist products. Speaking more precisely, the development of tourism always requires the development of additional products and related services like bus transportation services or the use of smaller passenger cars.

Many people while being on business trips are also interested in visiting cities and admiring their cultural heritage. Therefore, in order to make the sightseeing more convenient for them, public means of transport should be easily accessible and guarantee the comfort and safety of traveling.

Another very important issue, that will surely affect the number of people visiting Poland in the future, is the fact of the forthcoming 2012 Euro Cup, that Poland is going to host along with other selected countries. What needs to be taken into account, is the fact that such an event attracts a huge number of sports fans that will arrive to the country from all over Europe and will be interested in the use of the road infrastructure of the country, by either using their own means of transport or simply relying on transportation services provided by the country. Most probably, foreigners who will arrive to Poland during this time, will remain within the country borders for a few days, or at least until their representation does not get eliminated from the group. It will surely affect the demand for all products of tourism, which will play a key role in the road transportation system. That is why, Poland needs to be very well prepared for the number of prospective visitors in the forthcoming years.

What needs to be emphasized is that, besides regular passenger carriage, the tourism sector also uses the services of heavy load transportation, though this issue is very poorly documented and recognized. However, due to the increase in traveling volumes, more and more hotels, resorts and restaurants are supplied with necessary goods by means of motor transport every day.

In other words, heavy load transport is very often relied on in today's supply chains and its role will definitely keep on growing in the forthcoming years.

BIBLIOGRAPHY

Statistical yearbook of transport in Poland for 2004-2008

Submitted: April 03, 2009
Accepted: May 15, 2009
Published online: May 30, 2009