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THE ROLE OF EU FUNDS IN THE DEVELOPMENT OF THE ROAD INFRASTRUCTURE IN POLAND

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Abstract: Road transport takes one of the leading positions in the organisation of freightage. Its domination causes road infrastructure congestion which affects its premature wear. That is why the condition of public roads takes an important part in road transport. The investments in road infrastructure are one of the major factors which promote European integration. From the point of view of the Polish transport policy, it is crucial to create conditions for the development of transport and conform the road network to EU standards. The development of transport infrastructure is perceived as one of the major benefits from Poland joining the EU.
Key words: transport, transport system, road network, EU funds.

1. Introduction

Accession of Poland to EU had a particular effect on technical, economical and infrastructural transformation in transport. The possibility of obtaining EU structural funds allowed Poland to modernise its transport system covering a modern network of national roads and motorways, railway system and create a network of fast trains. For the logistic system to function properly a suitable infrastructure is required. It should allow easy implementation of basic logistic functions. It is of course connected with fulfilling law, technical and operation requirements which were complied in accordance with EU regulations.

2. The network of national roads in Poland

The transport infrastructure, including the line one, is irreplaceable in the proper functioning of transport. One of the factors defining the efficiency of transport organisation is the network of roads and motorways and the quality of the surface. Data regarding the number of registered vehicles and the density of the road network in Poland between the years of 1990 and 2010 are presented in Table I.

Table 1 includes information regarding the development of the road communication network in Poland over the period of 20 years. It should be noted that the number of cars has tripled in 2010 compared to 1990. The numbers are similar regarding lorries and tractors. In an analogue period in Germany, a country of similar area but more economically developed than Poland, the number of registered cars was 42,302 thousand and the number of registered lorries and tractors was fewer and equalled 2,696 thousand.

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Table 1

The number of registered vehicles and road network density in Poland between the years of 1990 and 2010

Specification	**1990**	**1995**	**2000**	**2005**	**2010**
Cars (in thousands)	5,261	7,517	9,991	12,339	17,240
Lorries and tractors (in thousands)	1,045	1,354	1,879	2,305	2,982
Road network density (in thousands km/100 km²)	69.9	75.8	79.9	81.2	87.6

Source: Author's own elaboration based on Main Statistical Office

There are four categories of public roads in Poland depending on their function in the road network [9]: national roads, provincial roads, county roads and municipal roads. The total length of all public roads in Poland is 414,005.8 km, including national roads – 20,606.4 km, provincial roads – 28,412.6 km, county roads – 127,743.2 km and municipal roads – 237,243.6 km [4]. The municipal roads constitute 95% of all public roads in Poland. The remaining 5% are national roads, managed by the General Directorate of National Roads and Motorways. Statistically speaking Poland has a developed network of national and local roads, but as it results from the information of the Ministry of Infrastructure almost half of the national roads in Poland, because of poor surface condition, is suitable for immediate or near future repairs [3]. In road transport, an example of the highest quality roads are motorways and expressways, which length in Poland is 1,069.6 km and 737.6 km respectively [22]. In the total length of national roads, the share of motorways is 5% and expressways about 3.5%.

The data from 2009 show that Poland had a small number of motorways of 765 km, whereas in Italy, a country of similar area, there were 6,500 km of motorways [3]. As a result of the Program for Development of National Roads for the years 2008–2012, adopted by the law by the Ministry on 25 September 2007, on 15 December 2010 1166.5 km of national roads were put to use, including 183.5 km of motorways, 293.1 km of expressways and 199.4 km of city ringroads [6]. Table II. shows the results of an analysis of the motorway network conducted in selected EU countries.

Table 2

The development of motorway networks in accessing countries which joined the EU on 1 May 2004.

Country	**Lenght of motorways (km)**				**Average annual growth**
	year 1990	*year 2003*	*year 2007*	*year 2011*	*(km)*
Poland	257	405	698	1069	39
Czech Republic	338	518	633	745	19
Estonia	41	98	99	115	4
Slovakia	192	313	334	419	11
Hungary	267	542	647	1273*	53
Total	**1095**	**2144**	**2679**	**3878**	**138**

Source: Author's own elaboration based on Office of the Committee for European Integration [19] and National Statistical Offices [22] * 2009 r.

Among the afore-mentioned European countries in Table 2, Poland has noted one of the biggest average values of annual growth of motorways in the past 21 years. A bigger growth, by 53 km, has been noted in Hungary [17]. When joining the EU, being the biggest country by area and demographically, Poland had only 405 km of motorways which were mostly old roads and in poor technical condition. Access to UE funds caused an increase in the pace of building new motorways, which in case of Poland, resulted in the average annual growth of 83 km in the years 2003–2011.

The development of the transport infrastructure in Poland is possible mainly thanks to financing the construction of national roads from EU funds. Because "road transport, as a result of its specification in the technological area and global influence, inflicts the need to include national authorities in its development more than in other branches of the economy, and EU authorities" [2], it is justified to utilise funds originating funds coming from the country's budget [10] and funds allocated for the National Road Fund [8].

The Operational Program Infrastructure and Environment [7] is the source of funding of internal road investments. The division of funds in the Operational Program Infrastructure and Environment for the years 2007–2013 has been presented on Figure 1.

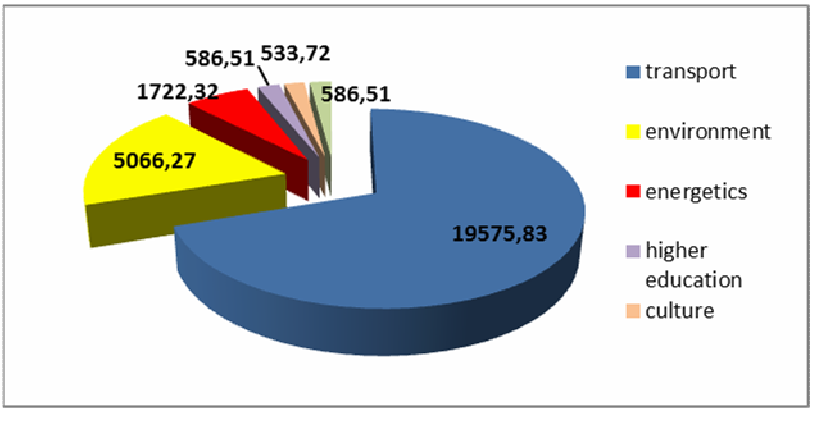

Figure 1. The division of EU funds in the Operation Program Infrastructure and Environment in the years 2007–2013 (in mln EUR)
Source: Author's own elaboration [18]

The major amount of funds in the Operational Program Infrastructure and Environment has been allocated to implementing actions in the transport area. It is connected with the growing numbers of cars on municipal roads. This situation has increased the level of noise in municipal areas, including environmental pollution and the number of victims caused by road accidents, is one of the negative effects of the development of the transport sector [1]. One of the ways to solve the problem of excessive noise is constructing a network of roads including: city ringroads, motorways and expressways.

The data included in Table 3 show one of the determinants to utilise EU funds in order to develop the network of motorways in selected countries.

Table 3

The analysis of determinants in selected EU countries (in 2011)

Country	Number of km of highways		
	per 100 thousand citizens	***per 100 thousand cars***	***per 100 thousand km² area of the country***
Poland	2.8	6	342
Spain	31	66	2876
Germany	16	30	3584
Czech Republic	7	16	944
Slovakia	8	24	855

Source: Author's own elaboration based on data from the Main Statistical Office and National Statistical Offices [22]

The total length of motorways built in Poland (in 2011) is 1069.6 km. In Germany the length of motorways was 12.845 km [13], and in the Czech Republic – 745 km [12]. Despite Poland joining the EU at the same time as the Czech Republic and Slovakia, all presented determinants in the table are characterised by the lowest level and significantly differ from the ones calculated for the Czech Republic and Slovakia. There are less than 3 km of motorways per 100 citizens in Poland. It's the worst outcome from the countries where the analysis has been conducted. A little bit higher factor of km of motorways per 100 thousand citizens can be noted in the Czech Republic and Slovakia – 7 and 8 km respectively. The highest factor has been noted in Spain where there are 31 km of motorways per every 100 thousand citizens. It is mainly caused by the fact the Spain also has the best developed national road and motorway network [14]. Comparing the factors of the aforementioned countries one can notice than Germany and Spain have been using EU fund much longer than the countries mentioned before. In case of Spain, there are 66 km of motorways per every 100 thousand cars and there are 2,876 km of motorways per every 100 thousand km² of the country. The highest factor of motorways has only been noted in Germany and it is 35,884 km per 100 thousand km².

The cost of constructing 1 km of motorway has been on the same lever for a couple of years. Currently, according to GDDKiA (the General Directorate of Roads and Motorways), the construction of 1 km of motorway costs in Poland on average €9.6 million [15]. The cost is close to an average European one which is €10 million per 1 km of motorway. The data published by GDDKiA indicate that the cost is cheaper in other EU countries, i.e. The Czech Republic (€8.86 million per km), Germany (€8.24 million per km) and Spain (€6.69 million per km). It is worth mentioning that the cost of construction of motorways varies. The construction costs depends on the shape of the terrain where the motorway is built and the density of buildings. Very often, the biggest influence on costs comes from the necessity of building tunnels and other engineering objects (bridges, flyovers, etc.). The European average is increased in such countries as Austria and Norway where the cost of building 1 km of motorway is €12.87 million and €18 million respectively [23]. It is connected with the need to create tunnels and build passages designed for migration of small and medium size animals.

According to the European Commission regarding the utilisation of EU funds for the years 2007–2013, Poland received the biggest amount of funds among all EU countries [11]. The

value of the funds that have already been transferred by the EC exceeded €35.1 billion. What is important the next places were occupied by Spain and Germany with the funds of €17.9 billion and €13.8 billion received respectively [11].

3. The perspective of road network development in Poland

The transport policy in the country gives the possibility of directing the development of the transport network. The 'Transport policy for the years for 2006–2025' compiled by the Ministry of Infrastructure contains general assumptions regarding catching up on the development of transport and its infrastructure [5]. Thanks to EU help it is possible to consider implementing the plans of building the network of motorways and expressways.

In the Program for Constructing National Roads for the years of 2011–2015 [6] three perspectives describing the investment priorities have been determined: until 2015, years 2016–2020 and after 2020. It is assumed that in the first period the key motorway network should be constructed (apart from the A2 between Mińsk Mazowiecki and Świecko) and preparation works for expressways for the years 2008–2012 should be finished. It is also planned to adjust the network of national roads for carrying loads of 11.5 ton per axle on major transit routes and developing a complex system of traffic management on the network of national roads. It is also crucial to reconstruct national roads to increase the safety as part of the 'Trust Ways' program.

In the years 2016–2020 the A2 motorway from Mińsk Mazowiecki to the border of the country is scheduled to be completed, and all priority expressways in the Program are planned to be finished. The plans also include building ringroads of the most congested cities.

The long term plan regarding the priorities after 2020 includes investments connected with completion of expressways and also the completion of the most important tasks connected with building ringroads on national roads. The implementation of the following projects of ringroads should take place in case of a significant increase in the congestion on national roads.

4. Conclusion

Transport is one of the most crucial factors which determine the economic development of the country. Modern transport infrastructure, which includes road connections between the major cities in the country, is able to strengthen the spatial integrity of the country.

The development of the Polish transport system is connected with equipment and investment funds for the logistical infrastructure. EU funding is a chance of extending or modernising the infrastructure. The assumptions included in the 'Transport policy for the years 2006–2025' set ambitious goals.

The transport sector has great developing opportunities. The basic changes in this sector have already begun. They are mainly connected with obtaining EU funds for structural help. One can expect that further help from this source, and increased national funds, will be able to fulfil the needs of the country in 2020 regarding the transport infrastructure. The amount of funds will enable to create a modern network of roads on a national and international level. It will be possible to construct all planned motorways and expressways. The investments in transport are a group of investments which mark out the social 'visibility' and direct influence on traveling comfort.

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