



Transport and infrastructure in Poland: the current state and projects for the future

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Abstract

The paper illustrates the current state of the transport infrastructure in Poland, with special attention to the road, rail and airport infrastructure. It highlights the recent trends in freight and passenger transport and discusses the project for improving and updating the transport networks. Though some improvements are taking place, funds availability remains the main problem for the enhancing of the current poor state of the transport infrastructure.

Keywords: Transport infrastructure; Road transport; Poland; Project financing.

1. Introduction

Transport infrastructure is widely recognised as factor determining the level of socio-economic development of a country and its economic growth. An undeveloped infrastructural network causes barriers to the free movement of people, goods, services, capital and production factors. The existing transport network in Poland appears to have a negative effect on the localization of foreign industries and services, on international trade with EU and bordering countries and on the competitiveness of Poland.

2. Recent transport trends

Data from the official government statistics indicate that the total volume of freight transport, both in tonnes and in tonne-km, had a negative trend in the period 200-2002 (Table 1). The year 2003 presents a slight increase, but at levels still lower than in the year 2000. It is interesting to note that in tonnes the main decrease has taken place in road transport and to a minor extent in inland waterways transport, whereas rail and maritime transport have increased their volume. On the contrary in tonne-km, road is

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the only growing mode of transport, with maritime transport being the mode that has lost more traffic. Relative to road, rail transport is still an important means of freight transport both in terms of tonnes and in tonne-km.

Table 1: Freight traffic in Poland*.

<i>Details</i>	2000	2002	2003
in thousand tonne			
total freight transport	1347895	1304387	1308802
rail transport	187247	222908	241629
road transport	1083071	1002368	981957
inland waterways transport	10433	7729	7968
maritime transport	22774	25222	25435
air transport	28	28	31
in million tonne - kilometres			
total freight transport	282559	248685	253028
rail transport	54448	47756	49584
road transport	72842	74679	78160
inland waterways transport	1173	1126	872
maritime transport	133654	104190	100455
air transport	88	80	86

*Note that the sum of the available modal data do not add up to the total volume.

Source: www.stat.gov.pl.

Passenger transport in Poland, measured both in passengers and in passenger-km, declined in the period 2000-2003 (Table 2) in all modes with the exception of air transport. It is noteworthy that the share of road transport in Poland is so far much lower than in the western EU countries.

Table 2: Passenger traffic in Poland*.

<i>Details</i>	2000	2002	2003
in thousands			
total passenger transport	1319972*	1124940	1112564
rail transport	360687	304025	283390
cars transport	954515	815041	822875
inland waterways	1625	1648	1795
see transport	625	559	526
air transport	2880	3667	3978
in million tonne - kilometres			
passenger transport total	62055	56903	56690
rail transport	24092	20749	19653
cars transport	31735	29295	29996
inland waterways	26	37	34
see transport	168	150	137
air transport	6034	6672	6870

*Note that the sum of the available modal data do not add up to the total volume.

Source: www.stat.gov.pl.

Notwithstanding the comparatively low level of road transport, car ownership is increased by about 14 % over the same period. Car density in 2003 reached 294,4 units per 1000 inhabitants (Table 3).

Table 3: Number of cars in Poland.

<i>Details</i>	2000	2001	2002	2003
Number of cars (in thousands)	9991260	10503052	11028852	11243827
Volume of cars per 1000 inhabitants	258.5	271.9	288.6	294.4

Source: www.stat.gov.pl.

3. Polish transport infrastructure

3.1 *The development of the road network in Poland*

Poland represents a link between Eastern/Western and Northern/Southern part of the European Union. This geographical location and the potential capacity of the domestic market provide an important opportunity for development of Poland as a whole. Four European transport corridors cross the country (Regulations Gazette of Polish Republic , 2001):

- Corridors I: Helsinki – Tallin – Riga – Kowno –Warsaw (Via Baltica) – with the branch line Riga – Kaliningrad – Elblag – Gdansk,
- Corridor II: Berlin – Warsaw – Minsk – Moscow – Nizhni Novgorod,
- Corridor III: Berlin – Dresden - Wroclaw – Katowice – Lvov – Kiev with branch line Dresden – Krzywa – (Legnica),
- Corridor IV: Gdansk – Katowice – Zlin with branch line Grudziac – Poznan and Czestochowa - Katowice – Ostrava.

Because of increase of international transport in Europe, during the Pan-European Conference of Transport Ministers in Helsinki in 1997, two more road project were recommended: Gdansk – Warsaw – Lublin – Kowel – Odessa – Bucharest; and Swinoujscie – Szczecin - south border – Czech Republic.

It is widely acknowledged that the present, bad condition of Polish's roads hampers the international trade with European Union and other neighbouring countries, has a negative impact on foreign direct investments, and on the mobility of goods and people. At the end of 2003 Poland had 18225.2 km of domestic roads, 405.1 km of motorways and 225.6 km of expressways. The road pavements standard is not fully adjusted to the TIR trucks movement. The Polish roads can accommodate a truck axle pressures of 60 – 80 kN whilst European roads accommodate up to an axle pressures of 115 kN. By the end of 2013 it is planned to build and re-build about 1535 kilometres of motorways, as follows (www.gddkia.gov.pl):

- A4 and A18 – from the Germany border to Cracow,
- A2 – from the west border to Warsaw,
- A1 – Gdansk – Czestochowa – Katowice – Ostrava,
- A6 – from Szczecin runs down to west border of the country.

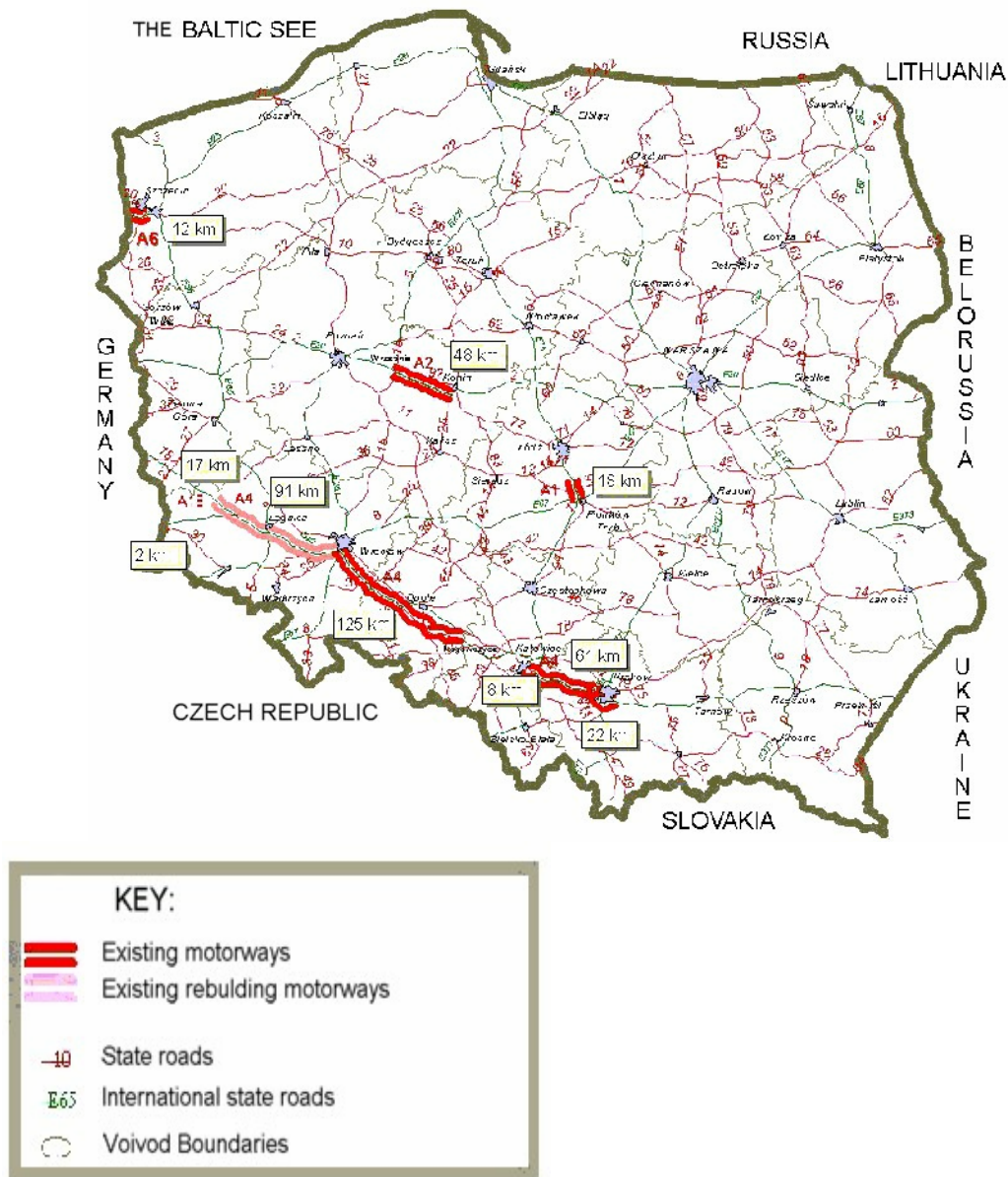


Fig. 1: Existing road network and motorway system in Poland in 2003.
Source: www.gddkia.gov.pl.

Together with building of motorways, the regular roads will be updated and constructed. An extremely important function for higher standard of traffic will be given to expressways, which, by 2013, are planned to amount to 1630 kilometres.

The pre-condition for improving the transport network is the availability of funds. Till 2003, the main source of financing for transport infrastructure in Poland has been the Polish budget (Table 4). From the 2004 the role of EU and international funds is increased.

Table 4: Funds invested in road construction in 2001 – 2004 (mln. zloty).

<i>Details</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
State budget (public funds)	1741.1	1975.3	1934.7	2446.8
Special Funds of General Directorate of National Roads and Motorways	306.3	323.7	502.8	29.0
National Motorway Funds	0.0	0.0	0.0	1000.0
European Investment Bank	334.1	550.4	912.2	999.3
The World Bank	238.8	162.0	222.2	90.0
Funds from European Union	223.5	244.6	413.8	1328.5
Self - Governed Funds	105.8	19.2	46.9	19.1
Concessionaire's Funds	-----	988.5	1171.2	702.5
Total	2949.6	4263.7	5203.8	6615.2
Dynamic (rok 2001= 100)	100	144.6	176.4	297.8

Source: Programme of Building National Roads and Motorways in Poland, www.stat.gov.pl.

Increasing and updating the level of transport infrastructure attracts investors and makes cities and regions more competitive. The creating of a new connection centre on the eastern side of Warsaw (between Minsk and Siedlce) will be part of two new future projects corridors called Via Baltica and Via Intermare and will terminate the highway A2. The most attractive locations in relation to communication availability are two big polish cities: Warsaw and Poznan. But the highway A4 situated on the southern part of the country induces potential development for Wroclaw, Katowice, Cracow and Rzeszow.

The plans regarding the afore-mentioned Via Baltica should improve the economical position of three cities: Gdansk, Gdynia and Szczecin – Swinoujscie, important Baltic ports serving Middle and Eastern Europe. It will develop also the regions located east of Warsaw bordering with Lithuania - especially Bialystok. Additionally some of the cities like Bialystok, Lublin, Kielce will be connected by expressways.

3.2 Rail infrastructure

The railway infrastructure plays an important role in the transport system. The Polish rail network is quantitatively well-developed, it has a relatively high level of electrification and a high percentage of lines with two or more tracks. But the quality of railways infrastructure is poor: it is technically degraded and, compared with other European countries, it has worse exploitation features, being still characterised by low competitiveness and services quality. The existing railway lines, particularly those located in the European transport corridors, have to adopt European standards, enabling them train speeds of 160 km/h in passenger traffic, 120 km/h in freight traffic with the load per axle of 22,5 tonnes. It needs also to be noticed that in Poland the railway network has been systematically reduced. In 2000 the length of exploited railway was 22560 km, with a density of 7.2 km/100 km, while in 2003 the length was reduced to 20665 km.

Future plans regarding this particular kind of transport are focused on improving and updating the rail network with a priority to those situated along European crossing routes like:

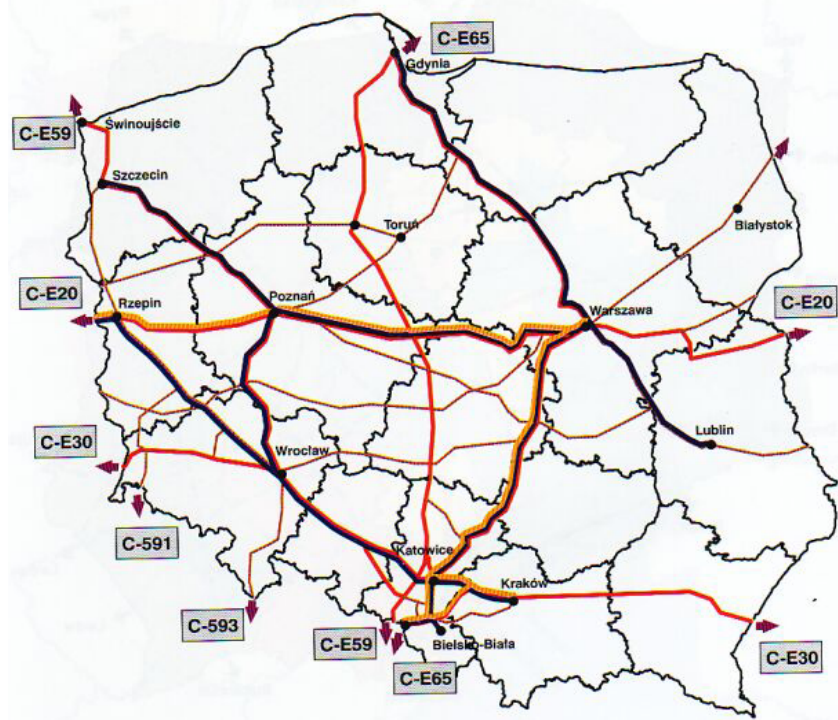
- Tallin – Ryga – Trakiszki – Bialystok – Warsaw, with a branch line to Riga – Kaliningrad – Braniewo – Elblag (corridors I) – E 75,

- Berlin – Kunowice – Poznan – Warsaw – Terespol – Minsk – Moscow (corridors II) – E 20,
- Berlin – Zgorzelec – Wroclaw – Katowice – Cracow – Przemysl – Lvov – Kiev (corridors III) – E 30,

The priorities for modernization are for (Wasiak, 2004):

- corridors III (Wroclaw – Opole – Katowice – Medyka),
- corridors II (Kunowice – Poznan – Warsaw– Terespol),
- corridors VI (Gdynia – Warsaw – Idzikowice – Zawiercie – Katowice – Zebrzydowice),
- corridors I (Trakiszki - Bialystok – Warsaw),
- corridors Ia (Tczew – Malbork – Bogaczewo – Braniewo),
- Line (Wroclaw – Poznan – Krzyż i Stettin – Dabie – Swinoujscie),
- new corridor Baltic Sea – Black Sea and line number 7 (Warsaw – Lublin – Dorohusk).

In agreement with the Railway Commercialization, Restructuring and Privatization Law enacted in 2000, the state-owned enterprise Polish State Railway (PKP) has undergone a period of structural reform. PKP has been transformed into a commercial law company in order to try and obtain sufficient financing from external sources for investment projects.



KEY

-  AGTC and AGC lines
-  Intercity
-  Eurocity
-  Other lines

Fig. 2: Existing railways network in Poland.

Source: E. Wysocka, System of Studies and Plans of Spatial Planning after Reform of Territorial Organisation of the Country, Institute of Spatial Management and Housing, Warsaw 2000.

3.2 Airports

In recent years, air transport has been the more dynamic means of transport around the world and in Poland as well. The location and quality of airports is a crucial aspect for its development. The main Polish airports are located in :

- 1 Central airport: Warsaw – Okęcie,
- 7 Regional airports: Cracow – Balice, Gdańsk – Rębiechowo, Poznań, Pyrzowice k/ Katowic, Wrocław, Szczecin – Goleniów, Rzeszów,
- 12 Regional airports with inferior signification,
- 18 Local airports.

Important changes have taken place. Private airports have been built, new companies offering the low cost flights between the attractive cities in Europe appeared in the market. These changes and the increasing travel habits among average income people explains the boom of the sector.

4. Conclusion

The creation of a modern transport infrastructure network in Poland is a strategic challenge for the Polish government. In 1998 the Polish Ministry of Transport prepared a project entitled “Transport Policy of the Country for 2000 – 2015. Years for Eco-development” which examined the ways to create the necessary condition for the integration of the Polish transport network with the European countries network. This project also suggested possibilities for improving new technology for multimodal transport. To realize all plans, a substantial increased in financial resources is needed. The most likely sources of financing will be state funds, planned fuel payments, EU grants and credit from the international financial institutions.

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