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THE ROLE OF TRANSPORT CORRIDORS IN EUROPEAN INTEGRATION

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THE INCREASE IN TRANSPORTATION

The integration of Europe contributes to the growth of international links: the flow of people, goods and information. This process will take place in the future, therefore it is important to improve all means of communications.

Recently an immense increase in transportation has taken place, particularly on roads and in the air. The number of motor road vehicles is increasing very quickly, with the number of passenger cars enjoying most rapid growth. *(Table 1)*

Table 1

Increase in the number of passenger cars in some European states, 1960-1995 (thousands)

States	1960	1970	1980	1995
Austria	404	1 197	2 247	3 594
Belgium	753	2 060	3 159	4 239
France	5 546	12 900	18 400	25 100
Germany – GDR	299	1 160	2 678	–
– FRG	4 337	13 514	23 192	40 499[a]
Great Britain	5 542	11 599	15 350	21 740
Greece	43	226	880	2 205
Italy	1 995	10 209	16 241	31 700
Holland	522	2 500	4 100	5 633
Spain	281	2 378	7 557	14 212
Sweden	1 194	2 289	2 883	3 631
Poland	117	479	2 383	7 517
Czechoslovakia	247	826	2 274	4 129[b]
Hungary	33	236	1 012	2 284

[a] *including the former GDR,* [b] *the Czech Republic and Slovakia*

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In the period 1960-1995 in the ten most important Western European countries (Austria, Belgium, France, Germany, Great Britain, Greece, Italy, the Netherlands, Spain, Sweden) the number of passenger cars increased from 20.9 million to 152.6 million (7.3 times), while in the countries of the Visegrád group (Poland, Hungary, the Czech Republic, Slovakia) the rate of increase was much higher: from 397,000 to 13.9 million (35 times). The number of trucks in the afore-mentioned ten Western countries increased in the same period from 5.4 million to 16.4 million (3 times), in Poland 11 times, in the Czech and Slovak Republics 6.4 times. *(Table 2)*

Table 2
Increase in the number of trucks in some European states, 1960-1995
(thousands)

States	1960	1970	1980	1995
Austria	204	378	526	293
Belgium	177	281	252	418
France	1 634	2 745	2 686	3 685
Germany – GDR	213	399	516	–
– FRG	729	1 002	1 570	2 202[a]
Great Britain	1 482	1 710	1 995	2 655
Greece	37	117	367	861
Italy	459	929	1 648	2 429[b]
Holland	157	335	355	620
Spain	149	747	1 405	2 873
Sweden	130	158	194	318
Poland	120	260	684	1341
Czechoslovakia	105	218	276	676[c]

[a] *including the former GDR,* [b] *1990,* [c] *the Czech Republic and Slovakia*

The bus transport system developed quickly in the first post-war years, but later a stagnation or regress of this type of transport occurred, as most people began to use their own cars. Yet despite this a dense network of regular bus lines exists in most European countries. Recently long-distance international bus traffic has been growing, both regular and occasional use.

Formerly leading the field, railway transport is in decline, both in passenger and goods transportation. In particular, local and regional trains have lost their importance due to the frequent use of private cars. On the other hand, interregional fast trains

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such as Inter-City, Euro-City, and TGV have enjoyed success. The railways may partly regain their former position by improving services (speed, punctuality, comfort).

Inland shipping is characterised by slow development, limited mostly to bulk cargo. Much more important is sea shipping, which is introducing bigger vessels, especially tankers, and leads in intercontinental goods transportation. In Europe sea shipping is vital for the integration of Great Britain, Ireland and Scandinavia into the main core of Europe, as well as connections between Mediterranean countries.

Rapid development of air transport leads to competition between companies, improvement of services and reduction of fares. At the same time the growing air traffic creates a danger to safety owing to the congested air corridors and airports.

International integration connected with the opening of borders leads to an increase in international traffic, both of people and goods. Recent political changes in Eastern and Central Europe, and especially the cancellation of visa restrictions in most European countries, contributed to the increased mobility of people. They now travel more frequently and for longer distances, crossing many state borders. Governments and transport enterprises must take this new development into account.

DEVELOPMENT OF TRANSPORT NETWORKS

The rapid increase in car transport led to congestion on roads and streets in the cities. The result was time wasted in queues and on crossings and growing number of collisions. It was necessary to improve and reconstruct the road network. The following tasks take priority:

- reconstruction of the existing roads: widening, change of surface, construction of by-passes and double-level crossings, regulation of traffic (traffic lights, restrictions for some kinds of vehicles);
- extension of the area devoted to transport by construction of new roads, parking, garages, service stations;
- construction of motorways, independent from other roads. This type of road was introduced on a large scale first in Germany and subsequently in Italy, France, the Benelux countries, Great Britain and Austria. Now many other countries are following in their footsteps and constructing motorways.

This development changed the distribution of traffic flow. The flow has the tendency to concentrate on motorways and the main roads connecting with them, creating traffic corridors. It is necessary for each country to plan a network of main transport corridors, which will link main cities, urban agglomerations, ports and the most important border crossings to the neighbouring countries. These corridors should be equipped with motorways and by-passes around major cities.

On the other hand, there is no need to construct many railway lines. Railways, owing to the decrease of traffic, have in general reduced their network. Many secondary lines have been closed and abandoned. Traffic is more and more concentrated

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on main lines which have been modernised (electrification, automatic regulation of traffic) and now allow certain trains to travel at high speed, such as the TGV in France or the Inter-City-Express in Germany. The most spectacular examples of such development are the TGV lines in France, starting with the Paris-Lyon line; the north-south line in Germany crossing the central mountainous zone, thus reducing the travel time between Hamburg and Munich to 8 hours; the Direttissima in Italy between Florence and Rome. This development creates also transport corridors which may be parallel to road transport corridors or independent from them. The railways, with their reserves of capacity, may overtake a part of motor-car transports, such as containers or whole trucks, thus contributing to the decrease of traffic congestion on main roads.

The congestion in air traffic must be regulated by air corridors which are introduced in all countries in order to protect aircraft from accidents. A part of air traffic may be overtaken by railways, thanks to rapid Inter-City and TGV trains. The travel time by such trains may be equal or even shorter due to the localisation of railway stations in the centres of cities while access to distant airports takes often more time then the flight itself.

THE NEED FOR INTERNATIONAL INTEGRATION

Political changes, such as the territorial expansion of the European Union, favour international integration. But integration needs numerous transport connections. In Western Europe the network of international connections is already dense due to historical development and the abolition of frontier control between countries which signed the Schengen Treaty. The lack of frontier control allows to cross the borders almost everywhere. For mass and heavy goods traffic the international motorways and railways are the most important.

Besides the development of motorways some other new investments have improved international traffic. The most spectacular include:

- the Eurotunnel between England and France under the English Channel;
- the road tunnel under Mont Blanc between France and Italy;
- bridges and tunnel across the Straits of Denmark linking Sweden with Central Europe (under construction);
- the Rhine-Main-Danube Canal in Germany, which allows direct inland shipping from the North Sea to the Black Sea;
- the bridge over the Bosporus linking the European and Asian parts of Turkey;
- planned tunnels under the Alps allowing the traffic between Germany and Italy almost without use of the surface of Switzerland, which limits the traffic of heavy trucks, preferring to transport them on railways.

Another type of developing international transport connections are ferry lines, most numerous across the Baltic Sea, the North Sea, the Mediterranean Sea, the Adriatic and the Aegean Sea. They transport, besides people, mostly passenger cars and trucks,

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whilst some are equipped with rails and also transport railway carriages. These and other investments created a dense network of international connections, allowing fast and easy contact between different states and their peoples. However, the proper use of these connections depends on the policy of the states. They may be used also for criminal purposes, such as illegal immigration or drug-smuggling.

THE SITUATION IN EASTERN AND CENTRAL EUROPE

Eastern and Central Europe holds an important position in the pattern of international transport corridors. It is situated between the states belonging to the European Union and the block of states formerly dependent on the Soviet Union. It may be the link between these two large groups of states, gradually approaching the European Union. Poland is situated almost at the geometric centre of Europe. The situation of Poland is convenient for east-west transport, because Polish territory forms a gate between the Baltic Sea and the mountainous zone (Sudetes, Carpathians) and is mostly made up of lowland plain. It allows the construction of straight roads and railways. The only natural obstacle are the rivers, and in the north of Poland the morainic hills.

Polish territory is important for international traffic as it is the most convenient area for transit between Eastern and Western Europe. For the Baltic states and Belarus it is the only possible way to the west of Europe (besides the sea route). For Russia and Ukraine it is not the only possible way but the shortest and the most convenient. All east-west routes situated south of Poland have to cross mountains, and most routes cross the River Danube, on which the number of bridges is insufficient.

Polish territory is less important for north-south transit because the connection with Scandinavia means crossing the Baltic Sea. Recent investments allow transit through the Straits of Denmark; in addition, the ferry route to German ports is shorter than to Polish ports. Another reason is the low population of Scandinavia and the decrease in traffic to South-Eastern Europe owing to the civil war in the former Yugoslavia and the economic collapse in Romania and Bulgaria. The traffic to Greece prefers now the way across Italy and the ferry line from Brindisi to Greece.

The most important transit routes across Poland are the two east-west corridors:

- The central corridor linking the capitals Berlin, Warsaw, Minsk and Moscow, passing two large Polish cities, Poznań and Łódź. It is equipped with a railway currently under reconstruction (allowing speeds of up to 160 km/h for passenger trains, 120 km/h for goods trains) and a highway with a motorway section. Construction of motorway over the whole distance is planned; in the western part it is already under construction. The thoroughfare through Warsaw is under discussion.
- The southern corridor linking Central Germany with Ukraine through Silesia and Cracow, the most important for the Polish domestic traffic because it links the urban agglomerations of Wrocław and Cracow and the biggest industrial region of Upper Silesia. This corridor is already

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equipped with a motorway from Berlin to Cracow, although unfortunately with two interruptions and lacking a second lane for long distances.

Most important in the north-south direction is the central corridor from Gdańsk through Łódź and Upper Silesia to the coal basin of Ostrava. It was planned as a great international motorway to the coasts of the Adriatic, the Aegean and the Black Sea. The events on the Balkan Peninsula have delayed realisation of this plan. An express highway with two roadways already links Łódź with Upper Silesia and the vicinity of the Czech border. The northern part, between Gdańsk and Łódź, is partly under construction, including a new bridge on the River Vistula near Toruń. An almost straight railway, constructed in the inter-war period, allows transit between the ports of Gdynia and Gdańsk and the countries in South-Eastern Europe.

Another north-south corridor is planned in Western Poland, close to the German border. Actually, there are only the standard highways connecting the ports of Świnoujście and Szczecin with the Czech Republic, through Gorzów Wielkopolski and Zielona Góra. A direct straight railway is lacking, in the southern part of this corridor only one-track non-electrified sections exist. The development of this corridor is planned.

Besides these four main corridors, which are predicted in the planned pattern of motorways, one can distinguish some others which may be important in the future.

A northern east-west corridor was planned by Germans in the inter-war period when German East Prussia was separated from the core of Germany. They started the construction of a motorway and finished only the section between Berlin and Szczecin, as well as a partly-constructed section between Elbląg and Königsberg (now Kaliningrad). The Russians completed the section on their territory, while Poland is not interested in the reconstruction of this transit corridor. Poland is promoting another route: via Baltica as a branch of the central east-west motorway, from Warsaw in the north-eastern direction towards Lithuania, Latvia, Estonia and Saint Petersburg. It is already used even by cars from Finland. In addition, direct trains to the Baltic states run already through Warsaw and Białystok, not through Kaliningrad.

Finally, an important transport corridor is developing between Ukraine and Warsaw, already with heavy road traffic. This corridor may be extended to Polish ports Gdańsk and Gdynia, creating access for Ukraine to the Baltic ports. Unfortunately, a direct Warsaw-Lviv railway route is lacking. The trains must go around through Przemyśl or Chełm. The border between Central Europe and the territory of the former Soviet Union is an important obstacle for railways, owing to the different width of gauge.