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Preconditions, features, prospects and problems of motor transport development in the countries of the Visegrad Group

The article is devoted to analyzing the basic preconditions, features, prospects and problems of the motor transport development in the countries of the Visegrad Group, i.e. in Poland, Hungary, Slovakia and the Czech Republic. This is done against the background of the well-known conclusion about the existence of a modal split in the development of transport in the countries of the region, in particular between the regressing rail transport and the progressing motor transport. To do this, the researcher first analyzed the state of development of various types of transport until the collapse of communist regimes in the region. After that, the focus was on the causes of the decline of rail transport and the improvement of motor transport efficiency. Finally, the author analyzed the current state of development and problems of motor transport in the countries of the Visegrad Group. As a result, it is proved that at present, in fact, nothing can affect the already formed modal split in the transport system of the countries of the region, which obviously will continue to deepen in favor of motor transport.

Keywords: transport, *motor transport, modal split, the Visegrad group.*

UWARUNKOWANIA, CECHY, PERSPEKTYWY I PROBLEMY ROZWOJU TRANSPORTU DROGOWEGO W KRAJACH GRUPY WYSZEHRADZKIEJ

Artykuł analizuje podstawowe założenia, cechy, perspektywy i problemy rozwoju transportu drogowego w krajach Grupy Wyszehradzkiej – w Polsce, na Węgrzech, Słowacji i w Czechach. Wynika to z powszechnie znanego wniosku o istnieniu podziału modalnego w rozwoju transportu w krajach regionu, w szczególności pomiędzy regresywnym transportem kolejowym a postępującym transportem drogowym. W tym celu najpierw analizujemy stan rozwoju różnych rodzajów transportu aż do upadku reżimów komunistycznych w regionie. Następnie skupiono się na przyczynach upadku transportu kolejowego i poprawie efektywności transportu drogowego. I dopiero na końcu przeanalizowano obecny stan rozwoju i problemy transportu drogowego w krajach Grupy Wyszehradzkiej. Udowodniono, że obecnie nic nie może wpłynąć na ukształtowany już w krajach regionu podział modalny w systemie transportowym, który oczywiście będzie się pogłębiał na korzyść transportu drogowego.

Słowa kluczowe: *transport, transport drogowy, podział modalny, Grupa Wyszehradzka.*

ПЕРЕДУМОВИ, ОСОБЛИВОСТІ, ПЕРСПЕКТИВИ ТА ПРОБЛЕМИ РОЗВИТКУ АВТОМОБІЛЬНИХ ПЕРЕВЕЗЕНЬ У КРАЇНАХ ВИШЕГРАДСЬКОЇ ГРУПИ

У статті проаналізовано базові передумови, особливості, перспективи і проблеми розвитку автомобільних перевезень у країнах Вишеградської групи – в Польщі, Угорщині, Словаччині та Чехії. Це зроблено на тлі загально відомого висновку про наявність модального розколу в розвиткові транспорту у країнах регіону, зокрема між регресуючим залізничним транспортом і прогресуючим автомобільним транспортом. Для цього спочатку проаналізовано стан розвитку різних типів транспорту до моменту колапсу комуністичних режимів у регіоні. Після цього увагу було зосереджено на причинах занепаду залізничного транспорту й покращення ефективності автомобільного транспорту. І лише у підсумку було проаналізовано сучасний стан розвитку та проблеми автомобільного транспорту в країнах Вишеградської групи. Доведено, що поточно нічого не може вплинути на вже сформований у країнах регіону модальний розкол в транспортній системі, який вочевидь і далі буде поглиблюватись саме на користь автомобільного транспорту.

Ключові слова: *транспорт, автомобільний транспорт, модальний розкол, Вишеградська група.*

The globalization of socio-economic systems and economic relations covers all areas of the international economy and public and supranational government. Among them, including in the countries of the Visegrad Group – Poland, Slovakia, Hungary and the Czech Republic – an important place is occupied by transport, and hence the problems of infrastructure and logistics of the transport system. They, being the bases of the functioning of the world, national and regional economies, are at the same time also elements of the global economic infrastructure. This is reflected in the fact that the role of transport is constantly growing, especially during the implementation of large-scale national and supranational integration plans and projects, as transport and the transport system in general are one of the basic components of territorial division of labor and effective means of territorial relations between production, service and consumption. This is most important and relevant in the context of appealing to the effects and consequences of infrastructure development and logistics of the transport system in the Visegrad countries within the existing modal split between rail and road, freight and passenger infrastructure and logistics in the transport system of these countries. Therefore, the focus of attention, which is the title of the presented study – and more precisely on the features, prospects and problems of road transport in the Visegrad Group, is extremely important, because according to various indicators, road transport in the region today is predominant in various

types of transport logistics and infrastructure, and therefore it needs to be considered and systematized, which can be significant and relevant for solving other existing problems of logistics and infrastructure of the transport system in the region and beyond it.

This research problem was revealed and analyzed at different times by such scientists as G. Augustiniak[1], A. Brenck, T. Beckers, M. Heinrich and C. Von Hirschhausen,[2] J. Burnewicz[3], S. Carpintero[4], D. Gillen[5], T. Ichiniowski[6], E. Judge[7], T. Komornicki[8], Z. Taylor[9], C. Waters[10] and others.

However, they either did not fully represent the state of development of road transport in the region, or did so not holistically, either functionally or in time frame. Therefore, the presented study is focused on the maximum coverage of the features, prospects and problems of road transport development in the Visegrad countries.

However, from the already existing scientific achievements and a whole array of statistics, it is clear that for the Visegrad countries, as well as for all European countries, traditionally – during the last decades of socio-economic development – inherent modal split in freight and passenger traffic between rail and road transport (for example, see Table 1). However, the formation and structuring of this split, and hence the signs and features of the development of rail and road transport in the countries of the region were and remain extremely different. Hence, their consideration, in this case on the example of road transport, and comparisons are a separate problem in the study of the transport system, logistics and infrastructure of the Visegrad Group.

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Table 1. Modal split between rail and road transport in the Visegrad countries: the ratio on the basis of indicators of freight and passenger traffic (in the dynamics, on the example of the period 2006-2016)

Year	Poland	Slovakeia	Hungary	Czech Republic
The indicator of transportation of goods and cargo by rail, in 1000 tons				
2006 p.	291 394	52 449	54 705	97 491
2009 p.	200 819	37 603	42 277	76 715
2012 p.	230 878	42 599	46 884	82 968
2015 p.	224 320	47 358	50 333	97 280
2016 p.	222 523	47 548	50 047	98 034
Average data	233 987	45 511	48 849	90 498
The indicator of transportation of goods and cargo by road, in 1000 tons				
2006 p.	897 414	181 521	250 989	444 644
2009 p.	1 170 478	163 491	229 808	370 115
2012 p.	1 245 053	132 270	165 514	339 314
2015 p.	1 264 960	147 225	198 744	438 907
2016 p.	1 313 657	156 179	197 759	431 889
Average data	1 178 312	156 137	208 563	404 974
The indicator of passenger transportation by rail, in million passengers / km				
2006 p.	18 240	2 213	–	6 922
2009 p.	18 128	2 264	8 003	6 472
2012 p.	17 110	2 459	7 769	7 196
2015 p.	17 024	3 411	–	8 125
2016 p.	18 753	3 484	–	8 738
Average data	17 851	2 766	7 886	7 491

This is important at least because, as shown in Table 1, in recent decades the share of rail transport in freight transportation, transportation of goods and passengers in the Visegrad Group countries is declining or remains stable, while the share of road transport in this context is growing. For example, in 2006–2016, rail transport averaged 17 percent of all freight and goods transportation in Poland, 23 percent in Slovakia, 19 percent in Hungary, and 18 percent in Czech Republic. In contrast, many times higher rates were inherent in road transport in all countries of the analyzed region. All this means that a remarkable feature of the development of rail transport in the region was that it gradually lost and still loses its popularity and modal share in the development of road transport, and this trend can be traced for about thirty years, i.e. from the collapse of the communist regime till today. This is reflected in the fact that the railway sector of the Visegrad Group countries today is characterized by a serious recession, primarily as a result of the collapse of planned economies, as a result of which rail traffic has declined sharply and is still declining – primarily due to loss of major customers. This is complemented by the fact that the governments of all Visegrad countries, immediately after the collapse of the communist regimes, took measures to deregulate the road transport sector, which created fierce competition, especially for railways, for the rest for the rest of the volume of

traffic. Accordingly, all these factors created, on the one hand, serious problems for the railways in terms of financial situation and profits and expenses, market positions, operational indicators and asset management, etc., however, on the other hand, were significantly more effective (by a reversal) in progress of the situation with road transport.

That is why, from the late 80's – early 90's of the twentieth century[11] until now, the subject and temporal controversy or alternative to the decline of rail transport in the region was and is the state and features of road transport.

The fact is that this cluster of the transport system of the Visegrad Group countries initially began to be considered as subject to reform against the background of simultaneous plans for socio-economic development of Poland, Slovakia, Hungary and Czech Republic[12]. This was its key systemic difference from rail transport, which at the beginning of socio-economic reforms (or at least initiatives to do so) was left virtually in the same state as before and therefore largely at random. This is what has generated the previously and still modal divide between road and rail transport in the near future. This was complemented by the fact that the development of road transport in the Visegrad Group countries was less determined by the needs of centralized government investment, as it began to be carried out primarily in the development of the private part of the road transport sector and transport motorization processes[13].

A striking example of such processes at one time was Poland; where against the background of planned socio-economic reforms (the so-called "Balcerowicz plan") in the early 90's of the twentieth century was regulated and initiated processes of minimal government intervention in the economy. This, in particular as a result of the cessation of state prices, the abolition of administrative regulation and distribution of raw materials, as well as the privatization of the public sector, removed total control over economic activity, encouraged foreign trade, abolished private monopolies and stabilized the financial system[14], which, in the end, allowed to motorize the transport system mainly road transport – primarily through private investment[15]. As a result, the transportation of passengers and cargo began to mix systematically and purposefully from the railway sector to the road sector, mostly private. For example, between 1990 and 1992, the

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[15] Waters C., Changes to road transport in Poland during a period of economic transition, *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137

share of railways in freight transport in Poland decreased from 22.2 to 14.8 percent, while the share of cars in this process increased from 74.4 to 82.4 percent[16].

Such trends have continued in the future and continue to this day (see Table 1) and are often explained by the fact that the new fragmented road transport industry has lost the "economies of scale" that existed with the old rail transport monopolies.

In terms of infrastructure, on the example of the same Poland (but similarly in other Visegrad countries), the situation has changed so that before the period of socio-economic reforms, the Polish government controlled transport through state-owned cooperatives. Thus, the main road transport operators were: "PanstwowaKomunikacja Samochodowa" (in 1990 operated about 30 percent of all freight), "Pekaes Autotransport" (responsible for exports and international transport), "PSK – National" (which was responsible for freight forwarding)), branch industrial transport associations, cooperatives, etc. The specificity of this period was that the defects of central planning created a "deficit economy", when demand was greater than supply for almost everything. Accordingly, in these conditions there was no need for an efficient distribution system, and logistics was paid almost no attention[17]. As a result, road transport operators did not actually have the motivation to change, as all plans were regulated by the state and did not directly depend on market competition. Therefore, in the absence of commercial pressure, the productivity of road transport in the region was assessed solely by the use of available resources. This, in turn, encouraged the inefficiency of road transport, because different organizations aimed to make full use of all resources allocated to them, rather than increase efficiency and use fewer resources, which, in contrast, is inherent in the market. This was compounded by the problems of the system of "compulsory mediation", when individual trade agencies had to organize the transportation of goods between suppliers and customers[18]. Another serious problem was the "retransmission of materials", because companies resold materials that they had previously purchased for their own use. The government was also responsible for the road network, but it was clearly a low priority at the time. For example, since 1955, investment in road and road infrastructure in Poland has been below the theoretical minimum required to maintain asset values. This made it possible to argue, that "the condition of most roads remained far from desirable, because the density of the Polish road network did not meet European standards"[19].

In total, in the late 80's – early 90's of the twentieth century the main problems of road transport in the Visegrad Group were: organization (the automotive industry was based on planned state-centralized monopolies, which did not stimulate entrepreneurship, efficient

[16] Waters C., Changes to road transport in Poland during a period of economic transition, *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137.

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operations, customer service, quality improvement, cost reduction, high productivity, as well as technical and organizational innovations); industrial policy (central governments paid very little attention to vehicles, but instead took care of heavy industry, so all other industries had few resources and poor management); ack of coordination (too many ministries and agencies were involved in decision-making, making long-term road transport planning almost impossible, responsibility for decision-making was unclear, and the decisions themselves were inconsistent); capacity (characterized by a serious shortage of transport, as "all transport needs far exceeded the capabilities of all available vehicles"); profitability (state-owned car companies operated with a permanent deficit, which was covered by government funding, so that in times of economic hardship, central governments could not meet the costs); reduction of investment in road transport (this process began in the 50s of the twentieth century); fleet (reduced investment meant that the car fleet was aging and deteriorating due to insufficient maintenance; in addition, virtually all cars in the Eastern European region were of relatively low quality); quality of roads (they did not meet European standards, needed urgent repairs and among them there were very few roads for the transportation of bulky goods); lack of highways (they were practically non-existent in the modern countries of the Visegrad Group at the turn of the 1980s and 1990s); accessibility of roads (highways were used by all means of transport and passed through settlements); increase in traffic (the number of cars still gradually increased) and congestion; costs (inefficient and poorly planned operations significantly increased the cost of transportation and logistics); slow border crossings (bureaucratic procedures often delayed crossings at international borders, reducing the level of transport services); directions of transportation (were strictly limited and applied only to the Warsaw Pact countries, although the situation began to change in the late 80s of the twentieth century); location of industrial facilities (central governments have implemented "equal development" policies for all regions, which did not meet the existing transport logistics); safety (a large number of accidents on transport due to the poor condition of roads and vehicles); poor quality services (there were almost no specialized logistics facilities – facilities of multimodal services and so-called distribution centers); environment (growing problems with environmental problems, in particular from the lack of disposal facilities, noise and greenhouse gas pollution)[20].

Instead, from the moment of initiation of socio-economic reforms significant changes in road transport began. The fact is that the problems listed above during the period of "real socialism" regimes were not acceptable to the new central governments in the early 1990s, when the processes of integration of the Visegrad countries with the EU and NATO began. Accordingly, "industrial strategies in the single European market have created a demand for the fast, flexible and high-quality transport services in Europe"[21], which have spread to the

[20] Waters C. Changes to road transport in Poland during a period of economic transition *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137.

[21] Bayliss B., Millington A., Deregulation and logistics systems in a single European market, *"Journal of Transport Economics and Policy"*1995, vol. 29, nr. 3, s. 305–316

Visegrad countries. However, the key factor in the development of road transport was, as it is noted above, privatization. After all, the central governments of the region have realized in a timely and convenient manner that many transport problems in general can be solved through the privatization of industry and the introduction of market competition. They did this in three main ways: a) began to privatize existing state-owned transport companies (for example, in Poland, the state-owned company "Panstwowa Komunikacja Samochodowa" was divided into 167 independent companies engaged in both freight and passenger transport, 31 companies engaged only in freight transport, and 34 ancillary transport companies[22]; b) deregulated the transport industry and called for the opening of new companies; c) allowed international companies to operate in the countries of the region.

Initially, this had negative consequences in road transport, but soon they turned into processes with positive dynamics. As a result, not only road motorization began to increase, but also the quality and quantity of road transport services and companies. A notable process was that all transport companies in the automotive industry became independent and began their activities independently. Moreover, some of them moved to new areas and began to serve certain sectors of industry and services, etc. This has led to a situation where it is the car companies, unlike the railways, that have been given a "market obligation" to respond to the commercial load and the supply and demand. The direct consequence was that, for example, in Poland in 1991 in the automotive sector there were more than 200 cooperatives, 500 state-owned companies, 200 enterprises with private and joint ownership, as well as more than 100 private enterprises and about 60 thousand private firms (up to 6 people). At first, they acted rather chaotically and scattered, but later the level of their professionalism and income increased significantly. This coincided with the actions of the central governments of the Visegrad Group, which were aimed at minimizing state intervention in the sector, promoting equal opportunities, ensuring fair and free competition, as well as combating monopolistic practices, controlling safety and technological standards, creating appropriate conditions that stimulated investment in transport, guaranteeing unlimited access to public infrastructure.

All this, in turn and by reversal, significantly affected the further significant increase in the number of private companies in road transport, and in the transport sectors of both goods and passengers, and therefore to increase the number of different road vehicles (see Table 2).

As a result, by the mid-1990s, private companies began to own and service about 40 percent of the road transport market (with this trend growing steadily in the future). They were also joined by international companies that began to enter the markets of the Visegrad Group, bringing them a combination of capital, technology, modern operations, management skills, services, facilities, guaranteed quality and price, which could not compete with similar companies, which were formed purely in the countries of the region. Especially given that it is

[22] Waters C., Changes to road transport in Poland during a period of economic transition, *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137.

international companies that have operated more profitably than their national homologues, which has shown that better operations can lead to both improved services and higher profits.

Table 2. Number of road vehicles in the automobile system and infrastructure of the Visegrad Group countries (In dynamics, on the example of the period 2007-2016)

Indicator of the number of road vehicles	Poland				Slovakia				Hungary				Czech Republic			
	2007	2010	2013	2016	2007	2010	2013	2016	2007	2010	2013	2016	2007	2010	2013	2016
Number of all available cars, in 1000 units..	14 589	17 240	19 389	21 675	1 434	1 669	1 880	2 122	3 262	2 984	3 041	3 313	4 280	4 496	4 729	5 308
Number of cars under 2 years old, in 1000 units..	684	723	797	1 028	N.D.	N.D.	N.D.	N.D.	521	76	140	204	259	324	465	559
Number of cars aged from 2 to 5 years, in 1000 units.	1 009	1 143	1 058	1 059	N.D.	N.D.	N.D.	N.D.	635	501	246	201	466	476	532	500
Number of cars per 1,000 inhabitants	383	453	510	571	267	310	347	390	325	299	308	338	414	429	450	502
Number of trams, №	3 656	3 620	3 383	3 332	357	345	345	349	N.D.	711	715	723	1 877	1 826	1 835	1 711
Number of tractors, №	N.D.	N.D.	280 420	361 681	N.D.	N.D.	27 561	31 016	N.D.	N.D.	56 089	68 117	N.D.	N.D.	7 626	4 488
Number of trucks with a tonnage of up to 3.5 tons, in 1000 units.	N.D.	N.D.	2 334	2 516	N.D.	N.D.	N.D.	N.D.	N.D..	N.D.	360	404	N.D.	N.D.	406	425
The number of trucks with a tonnage of more than 3.5 tons, in 1000 units.	N.D.	N.D.	628	664	N.D.	N.D.	288	309	N.D.	N.D.	47	45	N.D.	N.D.	188	222

Zródło: *Transport Database*, Wyd. Eurostat, zródło: http://ec.europa.eu/eurostat/web/transport/data/database

As a result, more flexible tariffs have become important changes in the countries of the region. In addition, in the long run, the first targeted facilities for automotive logistics began to open, resulting in a general change in attitudes towards logistics and the benefits of efficient transport in the Visegrad countries[23]. A further consequence of such processes was the improvement of road transport infrastructure, in particular the system of existing roads. This became especially clear, tangible and necessary when the Visegrad Group countries failed to privatize the railway transport sector and passenger and freight flows began to shift more and more to more flexible, cheaper and organized. road transport sector, primarily due to an increase in the number of road vehicles (see Table 2)[24]. In particular, it was found that during 1985-1997, the volume of road traffic in the countries of the analyzed region doubled. Another doubling took place by 2010.

However, such processes did not fully meet the investment in existing automotive infrastructure and the renovation and construction of completely new roads. Significant changes took place only after the accession of the Visegrad Group countries to the European Union in 2004, when new joint investment projects and additional sources of funding began to apply

[23] Waters C., Changes to road transport in Poland during a period of economic transition, *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137.

[24] The data as of 2015 are indicated.

to them in various ways. Although today the current condition of roads in the region is much lower than in Western Europe. However, politicians and the public in the region realize that its non-renewal in the future could lead to significant socio-economic problems. This is particularly noticeable in the context of the marginal development or decline of rail transport, as discussed above, which cannot encourage private carriers to use its capacity to replace or supplement road transport. Therefore, in all countries of the Visegrad Group, a scenario of improvement of highways and construction of highways has been chosen, which once again intensifies the split between rail and road transport in the region. This is successfully evidenced by the data in table. 3[25], from which it is quite obvious that in the region during, for example, 2007-2016 there were processes: increasing the length and share of highways (all countries in the region, especially in Slovakia), increasing the length of national roads (except Hungary and the Czech Republic) and road density (except for the Czech Republic) and road cabotage (with specifics in Poland and Czech Republic); reducing the length of provincial or regional roads (with the exception of Hungary and the Czech Republic, where their length is still stable) while maintaining a significant proportion of unpaved roads.

Table 3. Features of road infrastructure within the road transport of the Visegrad Group countries (In dynamics, on the example of the period 2007-2016)

Road infrastructure indicator	Poland				Slovakia				Hungary				Czech Republic			
	2007	2010	2013	2016	2007	2010	2013	2016	2007	2010	2013	2016	2007	2010	2013	2016
Length of highways, km	663	857	1 482	1 640	365	416	420	463	858	1 477	1 767	1 924	657	734	776	1 223
Share of motorways from all highways,%	0,2	0,2	0,3	0,4	0,9	1,0	0,8	Н.д.	0,6	0,8	0,8	0,9	1,1	1,3	1,3	1,4
Length of national roads, km	18 546	18 606	19 296	19 388	3 366	3 507	3 538	3 580	31 182	30 151	31 760	30 062	6 191	6 255	6 250	5 807
Length of provincial or regional roads, km	155 814	154 634	153 787	153 865	3 742	3 643	3 617	3 611	Н.д.	167 939	171 549	174 599	48 736	48 763	48 736	48 727
Length of municipal roads, km	Н.д.	232 880	240 447	246 983	36 344	35 759	35 787	36 817	0	0	0	0	74 919	74 919	74 919	74 919
Length of unpaved roads, km	Н.д.	132 362	129 969	125 924	Н.д.	Н.д.	Н.д.	Н.д.	Н.д.	123 486	126 472	128 581	Н.д.	Н.д.	Н.д.	Н.д.
Density of roads, in km on 100 square km	125	133	135	136	91	90	114	Н.д.	218	220	225	226	72	72	72	72
Road cabotage, in thousands of tons-kilometers	42 903	180 690	68 024	175 910	52 350	40 111	84 310	110 773	20 151	21 229	47 171	64 659	74 784	171 174	63 450	192 910

Zródło: *Transport Database*, Wyd. Eurostat, zródło: http://ec.europa.eu/eurostat/web/transport/data/database; Transport infrastructure investment and maintenance spending, Wyd. OECD Transport Database, zródło: https://stats.oecd.org/Index.aspx?&datasetcode=ITF_INV-MTN_DATA#

The conformity to plan and importance of such measures became apparent in the late 1990s, but mainly after the region's accession to the EU, when the first toll roads began to be built in the Visegrad Group, primarily in Poland and Hungary[26]. Interestingly, the beginning of construction of such roads is due to specific factors, one of which was a sharp increase in the number of cars and trucks despite the extremely low level of development of roads / highways

[25] The data as of 2015 are indicated.

[26] CarpinteroS., Toll Roads in Central and Eastern Europe: Promises and Performance, *"Transport Reviews"* 2010, vol. 30, nr. 3, s. 337–359.

in the 90s of the twentieth century[27]. Thus, in Poland at that time there were almost 260 km of highways, in Slovakia – almost 200 km, in Hungary – almost 300 km and in the Czech Republic – more than 300 km. This was complemented by extremely low provision and funding for road construction, as a result of which various projects aimed at the construction of toll roads began to be initiated. Moreover, in this context, road tolls were interpreted as a tool to return the investments that were invested in the development of roads in the Visegrad Group countries at the stage of their initial socio-economic reform.

Hence, the conclusion is that, faced with the urgent need to expand their network of highways, all Visegrad Group countries have developed ambitious investment plans. But to meet investment needs, these countries have expressed hope for the development of private toll roads, and for several main reasons: a) lack of sufficient public funds, b) the need to reduce both the government deficit and public debt, in particular to meet the requirements for accession to the European Union; c) the purpose of strengthening the role of the private sector in the economy[28]. However, after almost twenty years, the declared goals did not actually correspond to the infrastructural reality. Despite the fact that during 1991–2021 the countries of the region launched many concession tenders (mostly in Hungary and Poland, and the least in Slovakia), only some of them were successfully completed as toll highways. Moreover, most of the planned projects have undergone significant changes in length, public and private contributions, and risk allocation[29].

Also, the experience of construction and operation of toll roads in the region was and remains strongly colored by the economic and political problems of the Visegrad Group, although this was especially noticeable in the 90s of the twentieth century[30]. Thus, on the one hand, the construction of toll roads in the countries of the region was rather not an achievement but a disappointment, which quite often continues today[31]. This is especially true in the

[27] Ichiniowski T., Ambitious Polish road plan draw interest of U.S. firms, *"Engineering News-Record"*1997, vol. 238, nr. 20, s. 17.; Judge E., Environmental and economic development issues in the Polish motorway programme: A review and an analysis of the public debate, *"European Environment"*2002, vol. 12, s. 77–89.

[28] Colbourne J., Gray S.,*Public/private partnership in infrastructure finance*, [w:] Johnson M., Keatinge S. (eds.),*World Infrastructure 1994*, Wyd. Sterling1993, s. 75–78.; Timar A., Attracting private capital to finance toll motorways in Hungary,*"Transport Reviews"*1994, vol. 14, nr. 2, s. 119–133.; Muranyi M.,*Infrastructure, finance, provision and operation*, Presented atProceedings of Seminarheld at the European Transport Forum Annual Meeting, Middlesex: Brunel University(September1–5, 1997).; Perez B.,*Achieving Public-Private Partnership in the Transport Sector*, Wyd. Diebold Institute for Public Policy Studies2004.;Brenck A., Beckers T., Heinrich M., Von Hirschhausen C., Public-private partnerships in new membercountries of Central and Eastern Europe: an economic analysis with case studies from the highway sector, *"EIB Papers"*2005, vol. 10, nr. 2, s. 82–111.

[29] CarpinteroS., Toll Roads in Central and Eastern Europe: Promises and Performance, *"Transport Reviews"* 2010, vol. 30, nr. 3, s. 337–359.

[30] SzaboF., *Public-private partnerships in Hungarian motorways' construction*, Presented at Proceedingsof the ECMT Seminar on Public-Private Partnerships in Transport Infrastructure Financing, London: European Conference of Ministries of Transport (January 12, 1999).; Dinham M., Asterak D., KilyenfalviB., Hungarian road projects: a definitive summary, *"Infrastructure Journal"*2005,s. 59–61.; Taylor Z., Polish transport policy: an evaluation of the 1994/5 White Paper,*"Journal of Transport Geography"*1998, vol. 6, nr. 3, s. 227–236.; Taylor Z., Recent changes in Polish transport policy,*"Transport Reviews"*2004, vol. 24, nr. 1, s. 19–32.; Waters C., Changes to road transport in Poland during a period of economic transition, *"International Journal of Physical Distribution and Logistics Management"* 1998, vol. 29, nr. 2, s. 122–137.;Komornicki T., Specific institutional barriers in transport development in the case of Poland and other central European transition countries, *"IATSS Research"* 2005, vol. 29, nr. 2, s. 50–58.

[31] CarpinteroS., Toll Roads in Central and Eastern Europe: Promises and Performance, *"Transport Reviews"* 2010, vol. 30, nr. 3, s. 337–359.

case of Slovakia, which launched its first concession in this direction only shortly before 2010. Although, in contrast, the situation is much better in Poland and Hungary, where toll highways have been built and launched. On the other hand, private highways have made an impressive contribution to the transport systems of some Visegrad countries, especially given the novelty of this concept in the transition economies of the time.

Hence, in the end it is argued that in the countries of the Visegrad Group for a long time and radically revealed a modal split between rail and road transport. Moreover, in practice it is implemented mainly in favor of road transport, which has a significantly predominant share in the transportation of goods, services, cargo and passengers, because it is characterized by much better logistics and infrastructure. Perhaps the only indicator in which rail transport in the region still wins is its relative environmental friendliness and safety. This is evidenced by statistics, which show that, despite the reduction in road deaths, it remains much more dangerous than rail transport. At the same time, this is manifested both in the number of accidents on two types of transport, and in the number of fatalities in different types of accidents (even in terms of the total population and number of vehicles). Although this is unlikely to affect the already formed in the countries of the region modal split in the transport system, which obviously will continue to deepen in favor of road transport.

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