



**URZĄD  
TRANSPORTU  
KOLEJOWEGO**

# **Polish railway market in 2011**





**Krzysztof Dyl**  
**President of**  
**the Office of Rail Transportation**

**Dear Sirs,**

I have the honor of presenting you the annual report prepared by the Office of Rail Transportation on the Polish railway market operations. This document is a diagnosis to reflect the current condition and perspectives of the Polish transportation system development, including the detailed analysis of the most important occurrences on the Polish railway market.

This document would not be elaborated without assistance of Polish railway undertakings and infrastructure managers. Thanks to their engagement and cooperation with the Office we can learn about the market occurrences, define barriers and chances of development as well as take up specific actions preventing from marginalization of the railway transport in relation to the remaining transport modes.

I hope this report to bring closer topics and issues of how the Polish railway market is operating both to the general public opinion and also to the persons responsible for and engaged in the railway.

I am deeply convinced that thanks to our joint efforts, a similar report will reflect next year the results of the Polish railway market.

**Wishing you pleasant reading, yours faithfully**

  
**Krzysztof Dyl**

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# Introduction

This study reflects the condition of the Polish railway market in 2011 and the preceding years. The evaluation consists of the information and data bringing closer the problem of market functioning, including, among other things, the information and data which makes it possible to take actions the purpose of which is to eliminate the decline of railway transport role in the Polish transport system.

This document presents a detailed review of the most important issues concerning the railway transport market and access to infrastructure in Poland and European countries, including in particular:

- ✓ diagnosis of condition and characteristics of railway transport,
- ✓ competition between the modes on the transport market in Poland and Europe,
- ✓ Polish railway undertakings and infrastructure managers,
- ✓ Polish railway market structure,
- ✓ structure of the rolling stock held by railway undertakings,
- ✓ volume and efficiency indicators on the railway market,
- ✓ railway transport licensing,
- ✓ quality indicators of the passenger railway transport,
- ✓ issues concerning the protection of passengers rights and the role of the President of the Office of Rail Transportation *Urząd Transportu Kolejowego – UTKI*, in this area,
- ✓ granting access to the railway infrastructure for railway undertakings by infrastructure managers,
- ✓ level of charges for access to railway infrastructure,
- ✓ the quality of the Polish railway market.

This evaluation has been elaborated basing on the results of analysis and research conducted on the grounds of statistical data and information of the Office of Rail Transportation, gathered within the framework of monitoring the railway entities functioning on the market. Additionally, while making the analysis and doing the research, secondary sources of information were used, including among other things, the data of: Central Statistical Office *Główny Urząd Statystyczny*, Statistical Office of the European Union "Eurostat", European Commission working groups in charge of railway market monitoring and in charge of regulatory bodies as well as the European organizations associating the railway entrepreneurs.



# Diagnosis of the condition and characteristics of railway transport in 2011



In 2011 there was the first for three years increase of railway transport performance in passenger sector. The railway undertakings transported totally 264.5 million passengers, nearly by 1% more comparing to 2010. The growth of transport performance in terms of passenger-kilometres (pkm) slightly exceeded 1.4%. The number of passengers increased both in the sector of regional transport by 1.4%, as well as in international traffic, by nearly 11%. The reverse was noticed in the interregional transport. In 2011, the railway undertakings transported by 700 thousand passengers less than a year ago in this traffic, which constituted a fall equal to 1.3%. Decrease in the travelers number in long-distance transport was caused mainly by numerous modernization works on the part of the railway infrastructure, and as a result, significant extension of the travel time for long distances. The cost of access to the railway services was also important, in the greater part far higher than in the case of bus or individual transport.

In the freight transport after the period of economic crisis and negative market occurrences in 2011, similarly to the preceding year the increase of volume of transported goods by 5.9% was noted and transport performance by 10.5%. Contrary to 2010, where the increase was generated mainly by higher trade exchange between the countries, and, thus, high demand for transport in international traffic, in the preceding year, mainly the increased demand for internal domestic transport influenced the total volume of transport by rail. The highest dynamics was noted by transport of freight groups used during infrastructure investment realization, mainly aggregate, sand and gravel. In this group, the increase of transport (year to year) exceeded 50%. It should be noticed that similarly to the preceding years, in 2011 the Polish railway transport based on the bulk transport, mainly transport of raw material. Transport of coal, metal ores

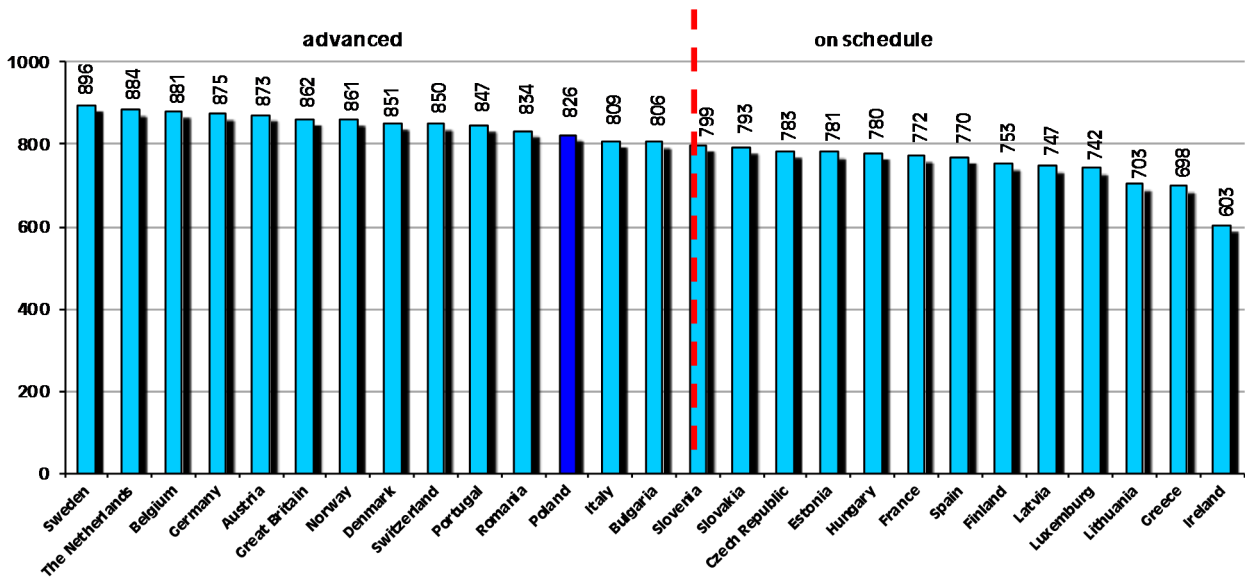
and mining and quarrying products constituted around 70.2% of total volume of the bulk and 60.9% of performance in terms of tonnes-kilometres (tkm) by the railway undertakings. The largest share in the market of bulk transport still belonged to transport of hard coal. On the other hand, it should be indicated that the volume of hard coal transport by rail has been dynamically decreased for few years. Only in the years 2006-2011 it diminished nearly by 34%. In 2011, further dynamic increase of intermodal railway transport was noticed. Total number of transported units increased nearly by 42%. Railway undertakings transported a record number of 480 thousand containers which was equal to nearly 800 thousand TEU. Despite the mass nature of the Polish railway, the share of intermodal transport in general volume of the market increased in 2011. The share of this kind of transport in terms of tkm increased to the level of 4.5% and was higher nearly by 1% than in the preceding year.

Condition of the Polish railway infrastructure improved slightly in 2011 but still it is not satisfactory. Only 40% of the lines in 2011 were in a good condition (by around 4% more than in the preceding year). The remaining part required current repairs or complex modernization. Unfortunately, the infrastructure condition translates directly into the transport speed and capacity, and in the result, the quality of the services realised by the railway undertakings, which currently present definitely lower level than in the most of the European countries. In the freight transport, the average commercial speed on the infrastructure network only slightly exceeded 25 km/h, which was connected both with long time of delivery of goods to the receivers, as well as with the increase of the railway undertakings costs. Still, the share of railway lines allowing passenger railway transport performance with the speed exceeding 120km/h, but not higher than 160 km/h, is insignificant and amounted to nearly 9%. For

almost 60% of the Polish infrastructure, the maximum authorised speed did not exceed 80 km/h. According to the research done in 2010 and 2011 by IBM company, the Polish railway transport market was in relatively advanced stage of liberalization. The extent of launching the liberalization – implementation of the European legislation was defined by liberalization index (LIB), in the 0-1000 scale, where 1000 meant full liberalization of the transport market.

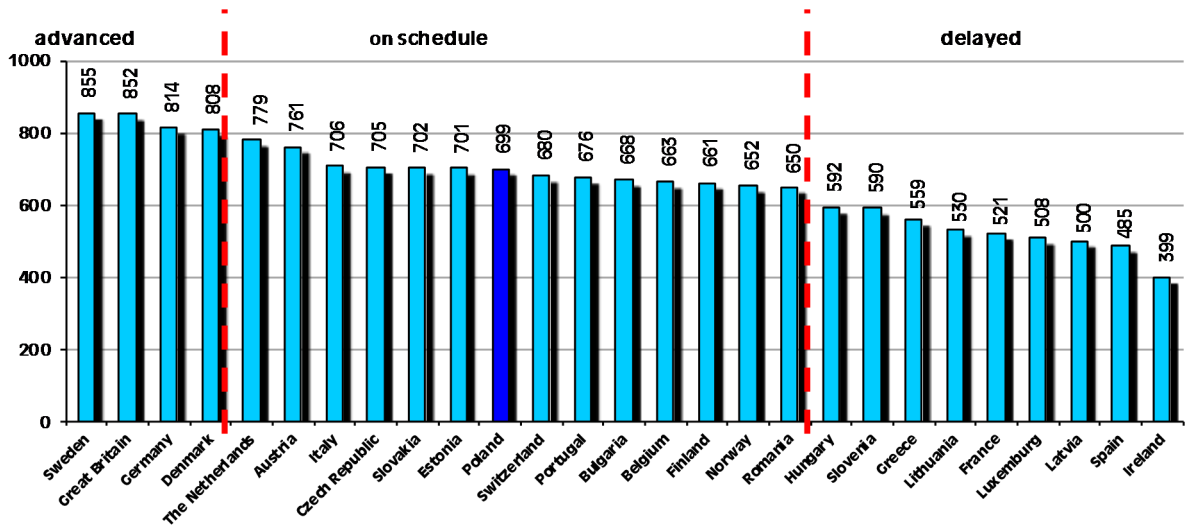
The level of European legislation implementation was measured on the basis of the LEX (20%) and ACCESS (80%) index. LEX index defined legal conditions of access (legal power and the force of regulators impact as well as legal aspect of access to the market). Whereas the ACCESS index defined the real conditions of functioning on the market, such as: barriers of access to the market and information, administrative barriers and the level of being open for new railway entities.

**Level of liberalization process for freight transport market – LIB index 2011**



/Source: Prepared by UTK on the basis of Rail Liberalisation Index 2011 IBM/

**Level of liberalization process for passenger transport market – LIB index 2011**



/Source: Prepared by UTK on the basis of Rail Liberalisation Index 2011 IBM/

According to LIB Index 2011 report, liberalization in Poland in the freight transport sector was at the advanced stage. LIB index for this market was equal to 826 in the year 2010. It should be emphasized, that Poland has one of the highest rate of the market liberalization index among the Member States which joined the EU in 2004. The highest rate of the freight transport market liberalization index was gained by Sweden – 896 and the Netherlands – 884 as well as Belgium – 881. It is worth mentioning that this index evaluates liberalization taking into account both legal as well as actual conditions of access, in a way trying to present the full view of the situation. Countries of the advanced level of liberalization, such as Great Britain, Germany and the Netherlands have strong and independent railway market regulators which proves that such a body is an important factor in terms of functioning and development of railway market. The countries qualified to the “advanced” group as far as liberalization level is concerned, are the countries with the highest number of railway undertakings out of the state group (national railway undertaking), having the biggest share in the railway market. This is the fact also in Poland, both in the passenger as well as in the freight sector. It should be noticed that the share of railway undertakings out of PKP Group in Poland is on a very high level. At the end of 2011 it amounted to 49.5% for passenger transport and 31.1% for freight transport (according to transport performance). As the European Commission and IBM indicate, there are practically no information barriers in Poland or barriers which would make it impossible or difficult to enter the market. The way to gain information about the procedure how to enter the railway market or how to get the documents authorising to perform railway transport (licenses, certificates, authorisations) is simple and straightforward. The European Commission and IBM indicate that the process of obtaining those documents does not considerably differ from the remaining European countries. It should be admitted, that the procedure of examining the application is often extended due to formal reasons but it is absolutely transparent. According to

information indicated in the report, the railway undertakings in Poland not connected with PKP group, have an open access both to the freight railway transport as well as to commercial passenger transport. . The process of passenger railway market liberalization is admittedly slightly less advanced than in the case of the freight transport market but comparing the liberalization level indices from the year 2007 and 2010 there is a significant improvement in this area. It shall be emphasized, that the changes unfortunately take place much slower than in the case of the freight services market. The countries with the highest level of liberalization, both in the passenger transport as well as freight transport with LIB index exceeding 800 points were: Germany, Sweden, Great Britain and Denmark. In the countries such as: Belgium, Switzerland, France, Finland, Ireland, Spain, the Netherlands, Norway and Portugal, there was no possibility to perform the commercial transport services. Still, performance of transport took place on the basis of licenses/contracts on delivering the public service by the national railway undertaking. In Germany, Denmark, Italy, Sweden and Great Britain the market was “open”. What is more, in those countries, considerable part of railway undertakings plays active role on the market. In Sweden, Great Britain, the Netherlands and recently in Germany, all the contracts on the passenger transport are submitted to a formal bid, whereas in Belgium, Bulgaria, Spain, Finland, France, Ireland, Luxemburg, Norway and Slovenia, passenger transport is reserved exclusively for the “national” railway undertaking.

Despite the fact that the liberalization process in Poland is still carried out in the condition of low quality of infrastructure, poorly effective organization and the structure of transport in the freight sector basing mainly on the bulk goods, it is anyway still on a quite advanced level. The Polish transport market, especially in the freight sector, was the market with fast growing share of the railway undertakings outside of the PKP Group. Those railway undertakings' share in the sector of the freight transport grew out of 8% in the year 2003 up to above



31% in the year 2011. It constituted a relatively good result in comparison to other countries. In the passenger sector after the process of transformation of the Przewozy Regionalne company (Regional Transport company) into the local authority owned company and after transferring the interregional transport to PKP Intercity company, the significant increase of the share of the companies outside of PKP Group was observed in 2007-2010, mainly the share of local-authority railway undertakings in terms of pkm from 1% up to 48%.

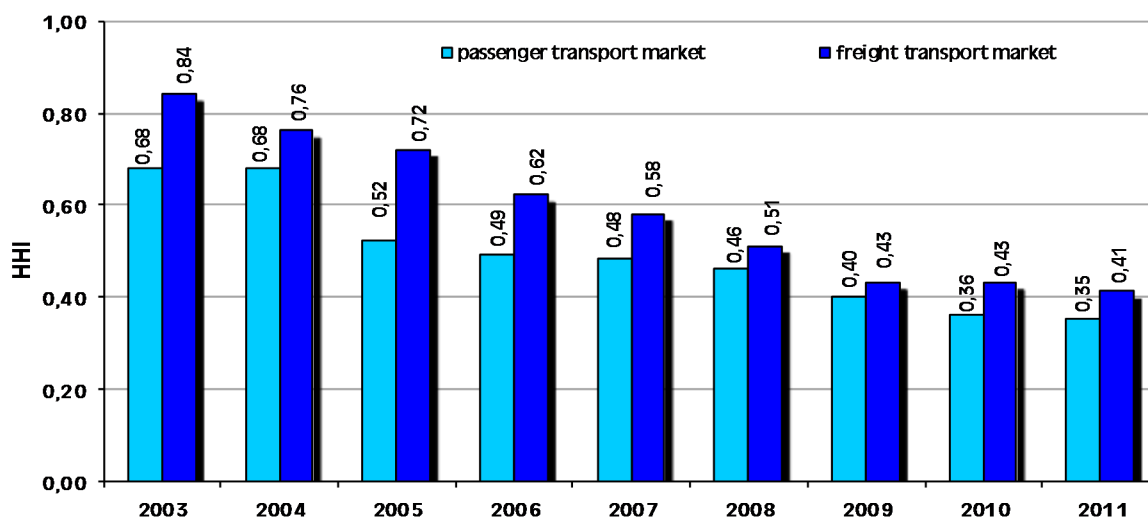
Additionally, this process contributed to creation of competition on the market in the interregional transport sector. It should be indicated that due to growing number of new railway undertakings since 2003 and the increase of their share in the railway transport, the Polish market was classified to the one of the most liberalized in Europe. Both the passenger and the freight sector have lower and lower level of concentration. It is evidenced by diminishing the HHI index (Herfindahl-Hirschman), which in the year 2011 amounted to 0.41 for the freight sector and 0.35 for the passenger sector. Decrease of the HHI index, starting since 2003 proves the further, gradual increase of competitiveness on the Polish transport market, due to the development of the private sector in the freight transport, ownership changes and dynamic development of local-authority companies sector in the passenger transport.

In the preceding years, the process of numerous ownership changes was observed, mainly in the freight sector. Thus, despite the new licenced entrepreneurs occurring on the market (including in the years 2006-2010), the number of companies which are authorised to perform transport service as well as those which perform



the transport service did not considerably change. Whereas in 2011, the significant increase of the number of entities actually performing the transport was noted. Taking into account the freight transport, as many as 13 new railway undertakings commenced the activity based on the license. It can prove the attractiveness of the Polish market which, contrary to other countries, still has huge potential.

#### Herfindahl-Hirschman index for the Polish railway transport market in the years 2003-2011



/Source: Prepared by UTK/

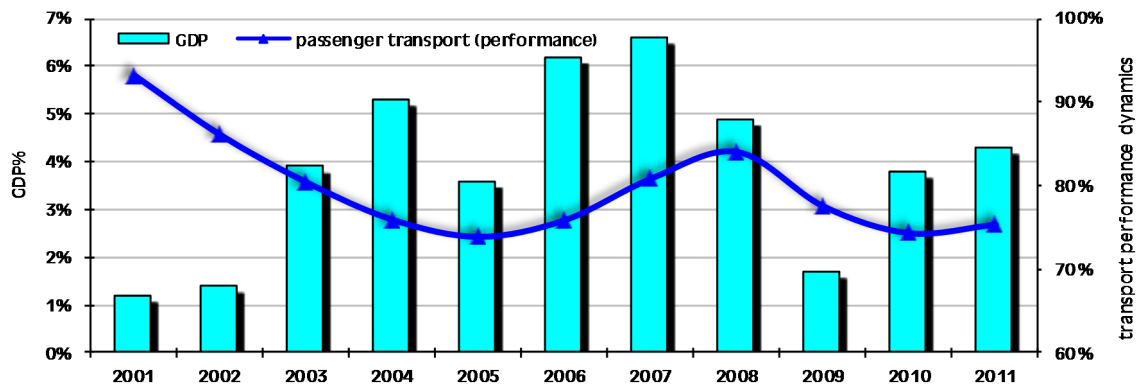


In the railway transport passenger sector there was no dependence between GDP changes and the volume and dynamics of the transport up to the year 2004. The society mobility rising together with the growth of GDP was satisfied mainly by individual road transport. In the years 2006-2008, the high GDP dynamics was accompanied by dynamic increase of number of transported passengers, as well as in terms of pkm. With the GDP increase oscillating between 3 and 5%, the demand for transport services by rail was growing at a rate of 4-6% per annum. After the economic crisis which started in 2008, and, thus, after slow down the dynamics of GDP growth, there was a reverse of the tendency in the passenger transport. In the year 2009 the railway transported 3% passengers fewer. In the year 2010, the high dynamics of GDP was accompanied by further decrease of number of passengers and performance. A slight increase was noted not until 2011, but it was significantly lower than GDP dynamics. The clear dependence between the GDP indicator and the volume of transport can be noticed while analyzing the performance of the freight railway undertakings.

The GDP growth was always accompanied by analogous growth of the transport dynamics, the most visible in the years 2005-2007 and 2009-2011. It should be indicated, that numerous infrastructural investments had big influence on the considerable growth of transport in 2010 and 2011.

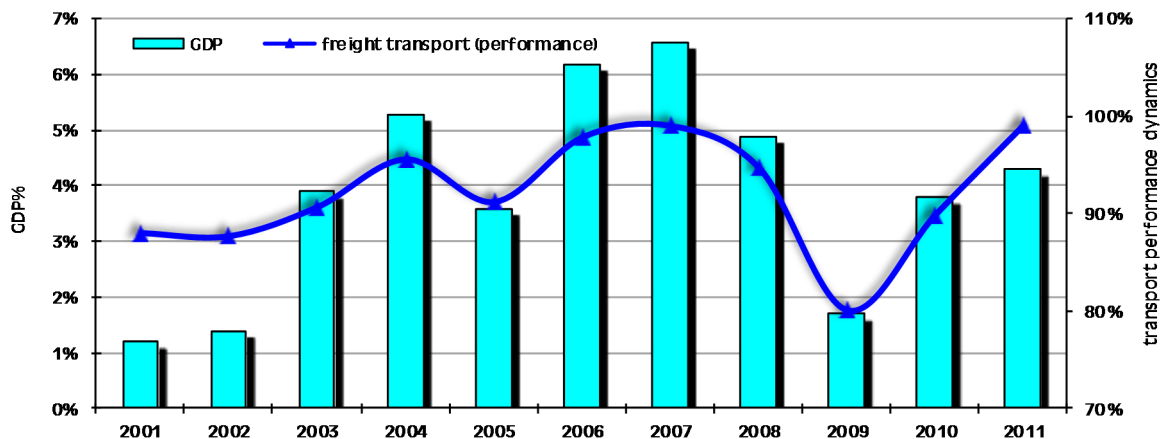
Still, the barriers impeding the development of the Polish market can be low quality of the lines and service facilities as well as quite high price for the access to the infrastructure disproportionate to the road transport, mainly concerning the coefficient price – quality – time. The disadvantage of the railway transports performed by the Polish entrepreneurs is also lack of specialized rolling stock used for transport of e.g. containers or trucks. Still, the level of punctuality and time of delivery of goods to the client leave a lot to be desired. It is mainly caused by low average commercial speed on the Polish railway market (constituting 25 km/h for freight trains and 35 km/h for intermodal trains in 2011), which significantly differs from the average in the European Union countries.

**Dynamics of the passenger transportation by railway transport against the GDP dynamics background**



/Source: Prepared by UTK/

**Dynamics of the freight transportation by railway transport against the GDP dynamics background**



/Source: Prepared by UTK/

# Passenger transport



# Competition between the modes on the European markets of passenger transport

Data presented in this chapter, concerning particular modes of transport in the European Union countries comes mainly from the year 2010. It should be indicated that data including the full reporting period is published by "Eurostat" European Statistical Office up to 18 months after the full calendar year finishes.

Period to the year 2007 reflects systematic growth of passenger transport performance in Europe in terms of pkm at 1-2% per annum, while the largest growing dynamics was demonstrated by the air transport. In terms of growth pace, tramways and metro as well as individual road transport took the second and third place. In 2008 and 2009, the growing tendency in passenger transport was impeded analogously to the level of 0.7% and 0.3%. In these years, the number of air transport travelers significantly decreased (2% in 2008 and 7% in 2009), while keeping the same level of transport performance in railway and road individual transport. In 2010, for the first time, taking into account the analyzed period, the volume of transport in terms of pkm slightly dropped. 6,304 billion passenger-kilometres were travelled, which is around 1% less than in 2009. The general decrease was caused mainly by individual road transport,

which noted a result by 1.3% worse than in the year 2009 (total fall by 60 billion passenger-kilometres). The market sectors which increased the volume of the transport performance in terms of passenger transport in 2010 were: tramway and metro (by around 1.1%), air transport (0.4%) and railway (0.3%). Despite the significant growth of general volume of passenger transport in the years 1995-2009 and slight fall in 2010, the share of particular modes of transport did not considerably change. The transport performance market share in terms of pkm, starting from 1995, oscillated on a similar level. The year 2010 was not an exception in this case, the share for railway transport amounted to 6.4% (in 1995-2009 it ranged between 6.1-6.8%). In 2010 the largest share belonged to individual road transport – 75.2% (by 0.4% more than in 1995), air transport – 8.3% (growth by 1.6%) and bus transport – 8.1% (decrease of share by 1.5% comparing to 1995). The above data reflects the difficulties in realization of the policy of sustainable transport in the whole European Union. Despite the growing costs of the individual transport, including the fuel prices, the passengers preferred the individual transports for years and did not follow the choice of more ecological, public transport

## Transport performance in passenger transport in all EU countries (billion passenger-kilometres)

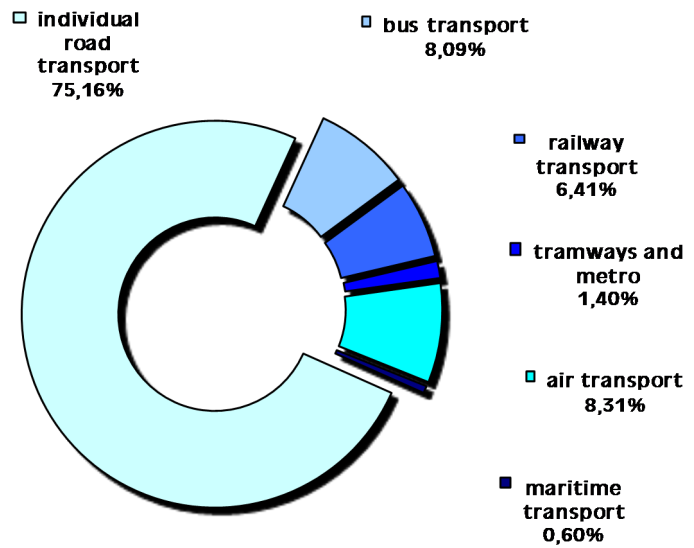
year	individual road transport	bus transport	railway transport	tramways and metro	air transport	maritime transport	total
1995	3 879	497	351	71	346	44	5 188
1996	3 945	501	349	72	366	44	5 277
1997	4 024	502	351	73	390	44	5 384
1998	4 122	510	351	74	409	43	5 509
1999	4 227	513	359	75	425	43	5 642
2000	4 296	516	371	77	457	42	5 759
2001	4 382	518	373	78	453	42	5 846
2002	4 456	517	366	78	445	42	5 904
2003	4 483	519	362	79	463	41	5 947
2004	4 534	523	368	82	493	41	6 041
2005	4 547	524	377	82	527	40	6 097
2006	4 609	519	391	84	549	40	6 192
2007	4 674	534	396	86	572	41	6 303
2008	4 710	534	411	89	561	41	6 346
2009	4 798	515	403	89	522	40	6 367
2010	4 738	510	404	90	524	38	6 304

/Source: Prepared by UTK on the basis of EC data/

means, such as e.g. railway. The individual transport share prevailing for years was caused both by economic factors, such as: low price of access to road, as well as high accessibility, adjustment to individual needs, flexibility and ability to perform direct transport.

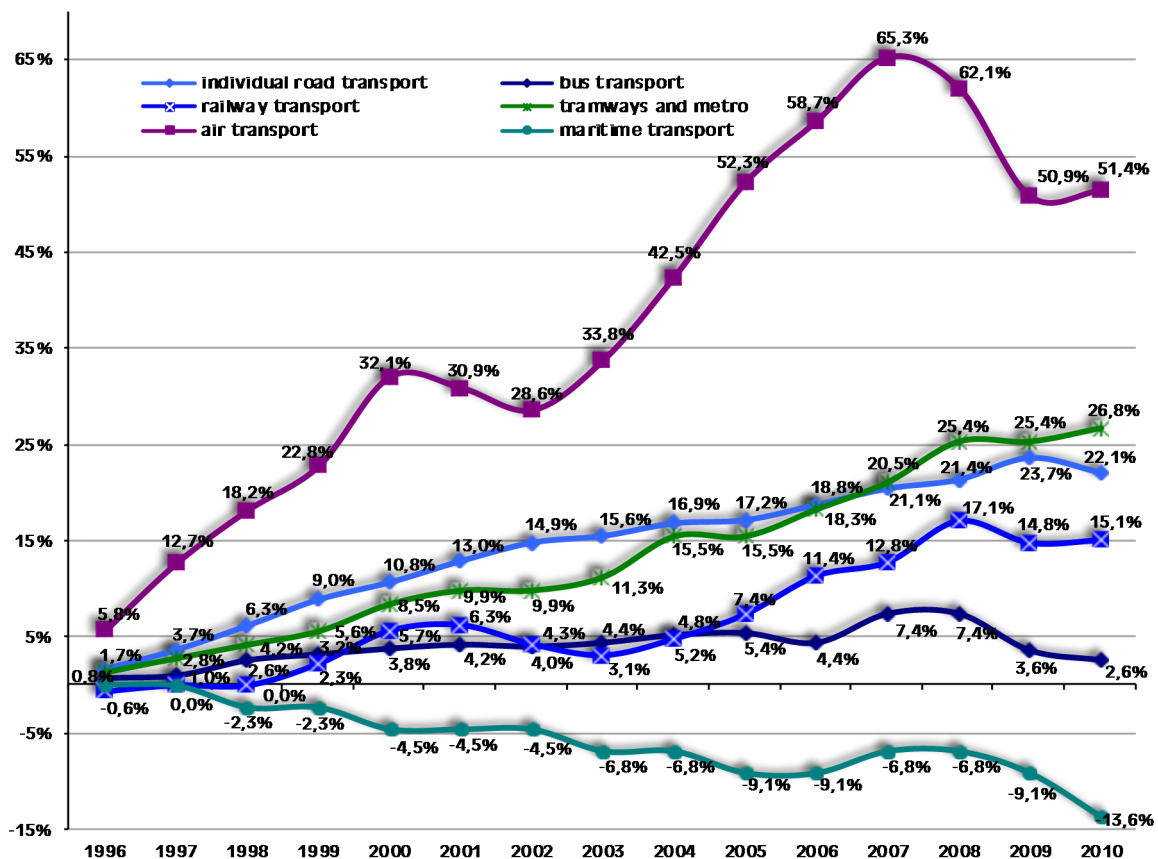
What is also significant, there is dynamically increasing network of roads and motorways, mainly in the new Member States of the European Union. As far as safety is concerned, the position of particular transport means was unchanged. Still, the safest kind of transport was railway and air transport. According to the data for the year 2011, 6 persons died on the board of the scheduled plane on the territory of the European Union countries (2 persons in 2010). Data concerning the number of passengers who died on the board of trains in the EU countries comes from the year 2010 – altogether 62 passengers (comparing to 34 in 2009). Despite the fact that the most dangerous kind of transport remains the road transport, the number of casualties decreased by 10.9% in the period of 2009-2010 in the scale of the whole European Union. In 2010, 31 thousand people died in the road accidents, whereas the year before, over 34.8 thousand.

Share of transport means in UE in 2010



/Source: Prepared by UTK on the basis of EC data/

Dynamics of transport performance by particular transport means – EU in the years 1996-2010 (1995 = 0%)



/Source: Prepared by UTK on the basis of EC data/

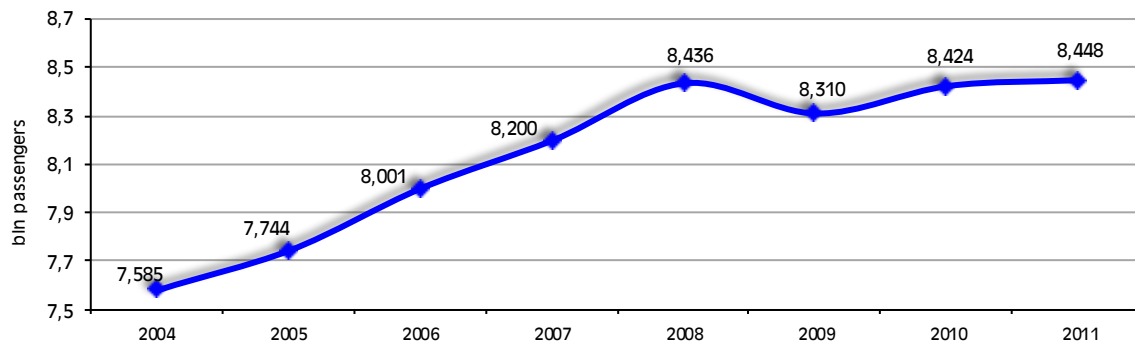
# Passenger railway transport in Europe



In 2011 in all the European Union countries, 8.448 billion passengers were transported by railway, by 0.3% more than in the preceding year. The performance was at the level of 405 billion passenger-kilometres (growth of around 0.25%). Average distance travelled by 1 passenger amounted analogously as in the preceding year to 47.9 km. It needs to be underlined that up to the year 2008, passenger railway transport was dynamically increasing. Only in 2004-2008, the number of passengers increased by 11.2%, and the value of transport performance grew by nearly 12%. Despite a slight fall which was noted in 2009, analogously by 1.5% and 1.9%, there was further increase of transport in the next years. In the years 2009-2011, the

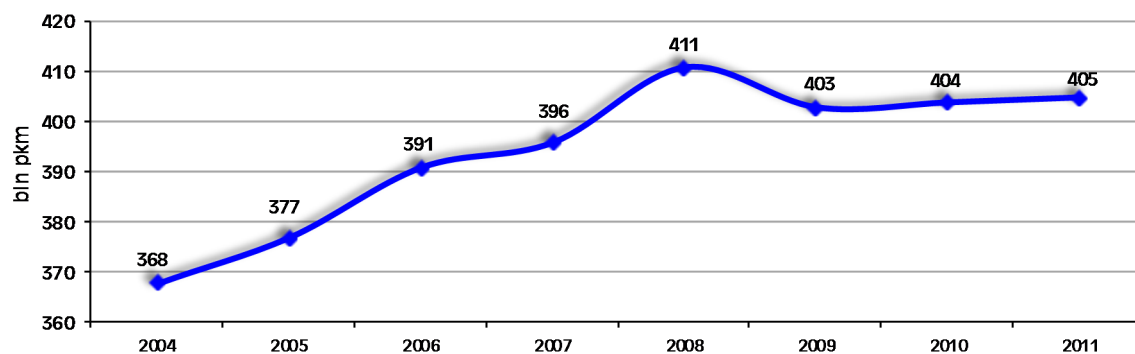
volume of passengers number increased by 1.7% and the transport performance grew by around 0.5%. In 2010, around 500 railway undertakings were authorised to perform passenger transport in the all EU countries on the basis of licenses, 5% more than in 2009. In Poland, 34 licensed railway undertakings were authorised to perform the above mentioned activity (in 2011 – 35 entities) out of which, the regular, timetable operation was realised by 9 standard gauge railway undertakings – in 2010 and by 11 standard gauge railway undertakings in 2011. Only such countries as Germany and Great Britain had greater number of the entities authorised to perform passenger railway transport – Germany - 320 and Great Britain – 44.

## Number of passengers in the railway transport in the EU countries in 2004 – 2011



/Source: Prepared by UTK on the basis of EC data/

## Transport performance in the passenger railway transport in the EU countries in 2004 – 2011



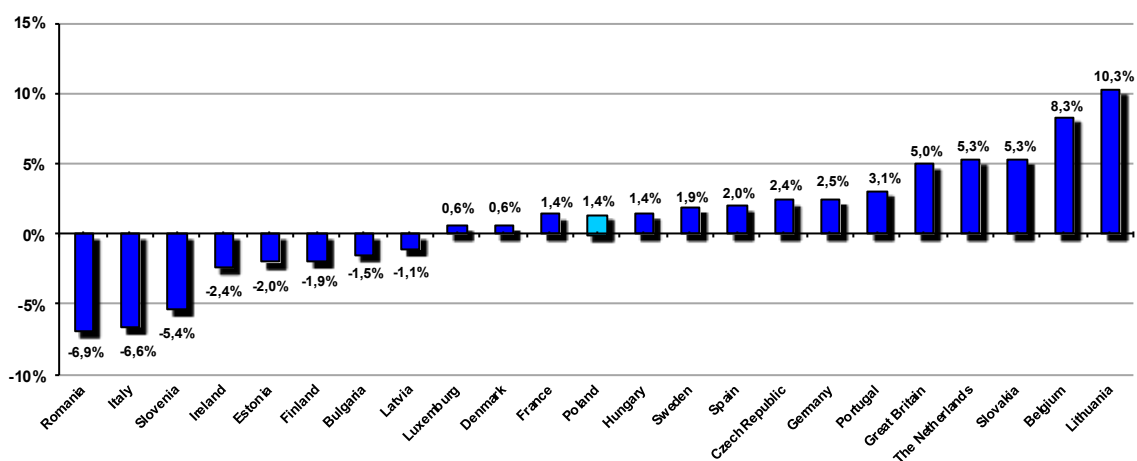
/Source: Prepared by UTK on the basis of EC data/

Despite the growing dynamics in the railway transport in the EU countries (in the analyzed period of time), this indicator is still on a very low level in Poland. Taking into account the transport performance in 2011 nearly 25% of passenger-kilometres were travelled in the passenger transport by railway. In the same period in the all EU countries, the transport performance increased by over 9%. The biggest influence on such big disproportion had a dynamic growth of road transport (individual transport), much bigger than in the EU-15 countries (old EU countries). It should be pointed out, that in 2011 slight inversion of the current tendency was noted. Comparing to the preceding year, the growth of transport in Poland amounted to 1.4% while a slight 0.25% was noted in the whole European Union. Taking into account the particular countries, the increase of railway transport in Poland oscillated at the level of average European and was identical as e.g. in France and Hungary. Among the countries with the highest indicator of the number of transported passengers, Germany is still the leader. In 2011, there were 2.511 billion passengers transported, by 6% more than the year before (which constituted 143 million people). The level of billion transported passengers was also

exceeded in Great Britain and amounted to 1.463 billion (growth by 7.1%) and France 1.101 billion (growth by 2.7%). The total share of these countries in the European transport market exceeded 60% (by 3% more than in 2010). The share of Poland among the all Member States amounted only to 3.13%, by 0.02% more than in 2010. Taking into account the transport performance in terms of pkm, similarly to 2010 and preceding years, France remains the leader, mostly due to the big volume of transport performed by the high speed railway for long distances. 86.2 billion passenger-kilometres was performed in total in this country. Average distance travelled by one passenger is considerably higher than in the most of the European countries and amounted to 78.3 km in 2011 (European average – 47.9km). In Germany, despite more than twice bigger number of transported passengers, the transport performance in tkm was lower than in France. The passengers traveled mainly for short distances in regional traffic (average in 2011 – 33.8 km). 84.9 billion passenger-kilometres were travelled by 1.5% less than in France. France and Germany together held 42.4% of the European market, in terms of pkm while the share of Poland in amounted only to 4.5%.



**Dynamics of the transport performance delivered by the passenger railway undertakings in the years 2010 -2011**



/Source: Prepared by UTK on the basis of EC data/

# Competition between the modes on the Polish market of the passenger transport

In Poland, in 2011 there were 429 million passengers less than 10 years ago who used all modes of transport altogether. Decrease of the number of transported passengers towards the preceding year amounted to 3.7%. There were 807.4 million passengers transported, by 30.7 million less than in 2010. The decrease concerned only the road transport, by around 6.1%. The largest growing dynamics was noted by air transport, by over 35%. The slight increase of the number of passengers in railway transport is mostly the positive dynamics in the regional traffic, for short distances. Railway transport in interregional relations noted a fall equal to 1.3%. The railway competed quite efficiently particularly in terms of transport for medium distances and between big cities, where the infrastructure condition allows to reach high transport speed (e.g. Warsaw – Poznań, Warsaw – Cracow). In 2011, the average distance of passenger transport amounted to 61.8 km and was higher by 5.2 km than in 2010 and 13.3 km in comparison to the year 2001. The average

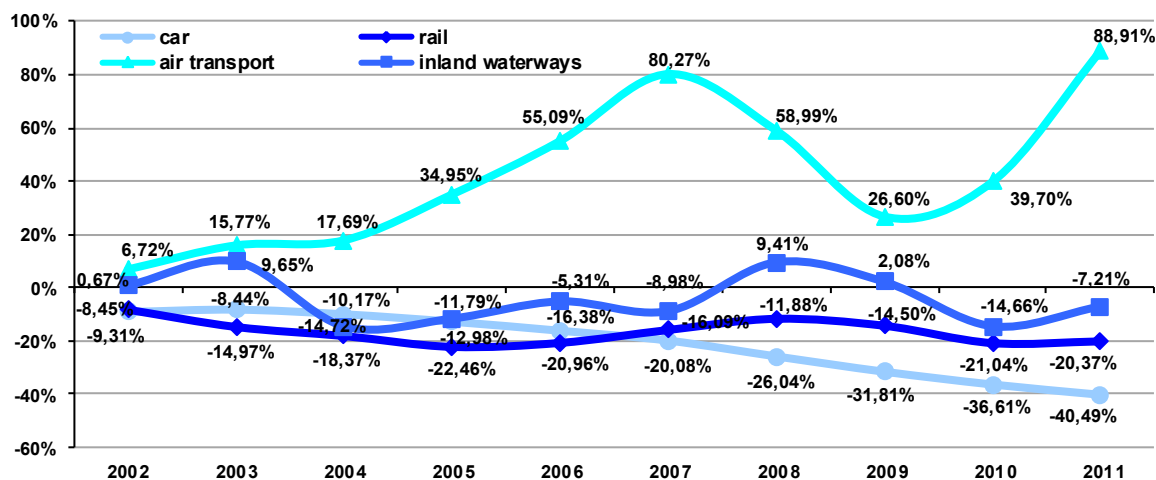
distance in the railway transport did not change significantly and amounted to 68 km. The shortest average distance was connected with inland water transport – 16 km and road transport (including bus and minibus) 38.5 km. Despite the fall of general volume of transport, the share of railway transport is still growing. It amounted to nearly 33% in 2011, by 1.5% more than in 2010 and by 8% more than in 2005. Despite the big growing dynamics of the number of passengers in the national air traffic, the share of this transport mode in general volume is still insignificant. In the years 2008-2011 it did not change and amounted to around 0.19%. Up to 2010, passenger transport market performance in terms of pkm had also a decreasing tendency and was at the level of a few percent per annum. In 2011, despite the fall of the number of passengers, there was a growth of transport performance by 5.2%, which amounted to 49.9 billion of passenger-kilometres, by 2.5 billion more than the year before. The dynamics of this indicator was mostly influenced by

## Number of passengers transported in Poland in 2001-2011

transport mode	year										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
mln passengers											
total	1 236,0	1 124,5	1 111,2	1 083,9	1 045,7	1 020,9	1 004,7	964,7	902,9	838,2	807,4
car	898,71	815,04	822,88	807,28	782,03	751,47	718,27	664,67	612,88	569,65	534,87
rail	332,22	304,14	282,50	271,20	257,60	262,60	278,75	292,74	284,05	262,33	264,54
air transport	3,44	3,67	3,98	4,04	4,64	5,33	6,19	5,46	4,35	4,80	6,49
inland waterways	1,64	1,65	1,80	1,40	1,44	1,55	1,49	1,79	1,67	1,40	1,52

/Source: Prepared by UTK on the basis of CSO [Central Statistical Office] data/

## Dynamics of the number of passengers in particular modes of transport in 2002-2011 (2001 = 0%)



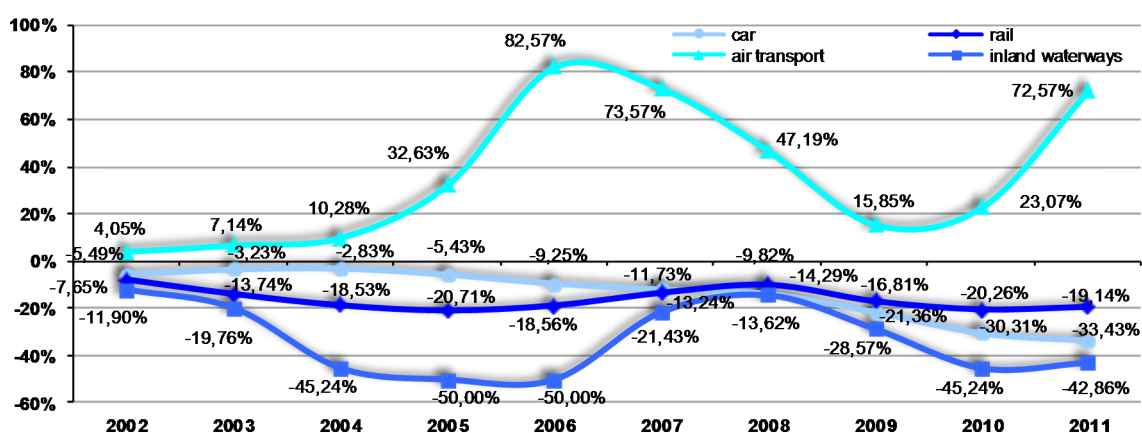
/Source: Prepared by UTK on the basis of CSO [Central Statistical Office] data/

## Transport performance in the passenger transport in Poland in 2001-2011

transport mode	year										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	min pkm										
total	59 919,0	56 753,0	56 281,7	55 517,7	55 653,8	58 156,0	58 016,2	56 512,1	50 524,7	47 431,9	49 893,3
car	30 996,0	29 295,0	29 995,6	30 118,0	29 314,0	28 129,9	27 359,0	26 775,0	24 375,0	21 600,0	20 600,0
rail	22 469,0	20 749,0	19 382,5	18 305,3	17 814,8	18 298,9	19 495,2	20 263,1	18 691,7	17 917,9	18 169,3
air transport	6 412,0	6 672,0	6 869,9	7 071,4	8 504,0	11 706,2	11 129,0	9 438,0	7 428,0	7 891,0	11 100,0
inland waterways	42,0	37,0	33,7	23,0	21,0	21,0	33,0	36,0	30,0	23,0	24,0

/Source: Prepared by UTK on the basis of CSO (Central Statistical Office) data/

## Dynamics of the transport performance of particular modes of transport in 2002-2011 (2001 = 0%)



/Source: Prepared by UTK on the basis of CSO (Central Statistical Office) data/

the growth of number of passengers in the national air traffic which was carried for significant distances. The only sector which recorded a fall was road transport (around 1 billion of passenger-kilometres less than in 2010).

It needs to be underlined that for the last ten years, the volume of transport decreased by over 16.7%, which constituted 10 billion passenger-kilometres. It was the most visible in the road transport where the fall in the analyzed period amounted to 33.5%, which after conversion amounted to 10.4 billion passenger-kilometres. The railway transport share in the passenger transport market in 2011, in terms of pkm, amounted to

36.4%, by around 1.4% less than in 2010. The share of the road transport decreased from 45.5% to the level of 41.3%. There was considerable increase of the share of the transport performance by the air transport, by over 5.5%. At the end of 2011 it amounted to 22.3%.

To summarize, the year 2011 reflects further decrease of demand for public, regular passenger transport. Starting from 2001, it amounted to nearly 35%. The fall of the number of passengers and decline of the majority of transport modes importance, despite the increase of the society mobility, are caused by further growth of individual road transport value.





# Polish passenger railway undertakings

In 2011, railway passenger transport services were performed by fourteen standard gauge railway undertakings, including seven companies owned by the local authorities:

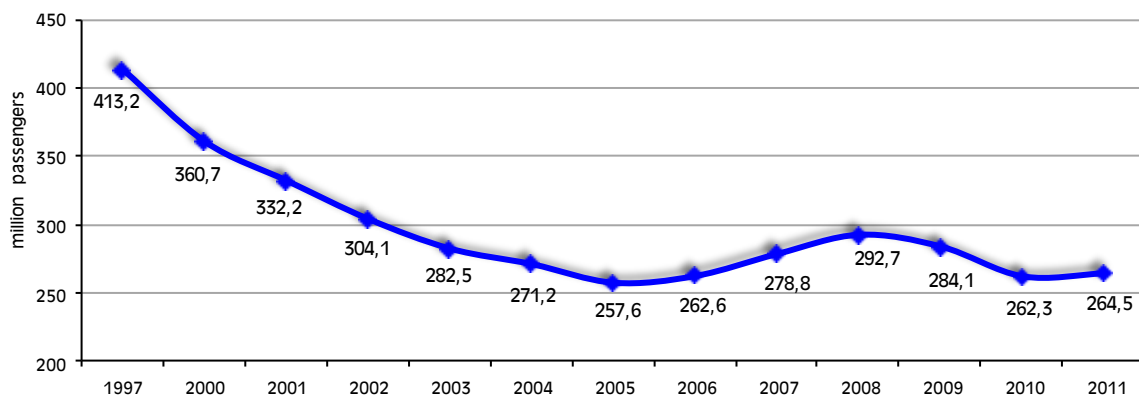
- ✓ Przewozy Regionalne Sp. z o.o. *(Regional Transport company)*,
  - ✓ Koleje Mazowieckie - KM Sp. z o.o. *(Mazovian Railway)*,
  - ✓ Szybka Kolej Miejska Sp. z o.o. w Warszawie *(Fast Urban Rail in Warsaw)*,
  - ✓ Warszawska Kolej Dojazdowa Sp. z o.o. *(Warsaw Commuter Railway)*,
  - ✓ Koleje Dolnośląskie S.A. *(Lower Silesian Railway)*,
  - ✓ Koleje Wielkopolskie Sp. z o.o. *(Greater Poland Railway)*,
  - ✓ Koleje Śląskie Sp. z o.o. *(Silesian Railway)*,
- three companies from PKP group, i.e.:
- ✓ PKP Intercity S.A.,
  - ✓ PKP Szybka Kolej Miejska w Trójmieście Sp. z o.o. *(PKP*

*Fast Urban Rail in Tri-city)*,

- ✓ PKP Cargo S.A. (occasional services),
- two companies dependant on DB concern:
- ✓ Usedomer Bäderbahn GmbH,
  - ✓ Arriva RP Sp. z o.o.,
- and enterprises:
- ✓ S&K Train Transport Sp. z o.o. (occasional services),
  - ✓ Freightliner PL Sp. z o.o. (occasional services).

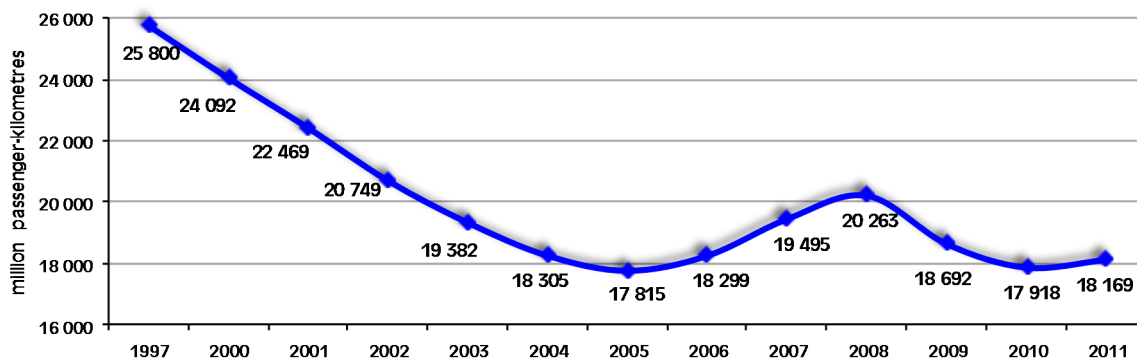
Three out of the above mentioned entrepreneurs, i.e. PKP Cargo S.A., Freightliner PL Sp. z o.o. and S&K Train Transport Sp. z o.o. limited their activity to the occasional performance of transport, thus their share in the passenger transport market is symbolic. The railway undertakings, which in 2011 formally started regular railway performance were the following companies: Koleje Wielkopolskie sp. z o.o. (Greater Poland Railways), date of starting the activity – May 2011, and Koleje Śląskie sp. z o.o. (Silesian Railways) - August 2011. Additionally, 22 operators acting on the narrow gauge lines declared performance

## Number of passengers in the passenger railway transport in 1997-2011



/Source: Prepared by UTK/

## Transport performance in the passenger railway transport in 1997-2011



/Source: Prepared by UTK/

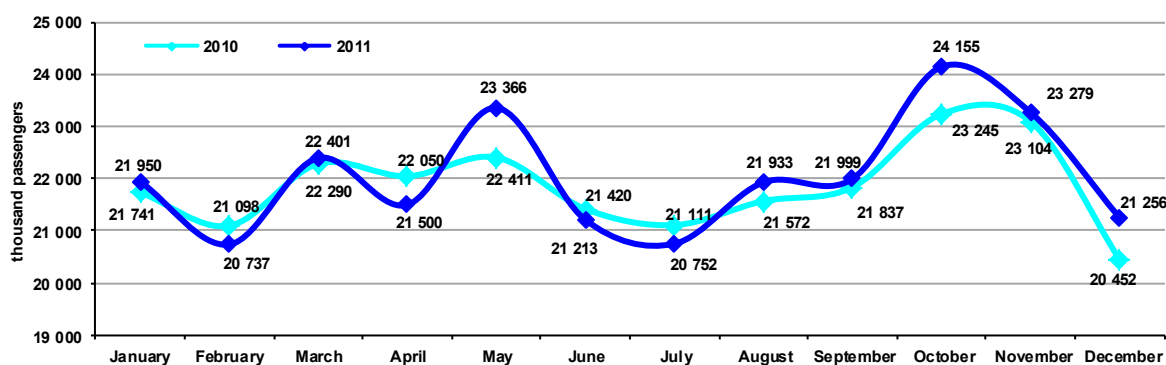
of the passenger transport.

In 2011, the passenger railway undertakings transported the total number of 264.5 million passengers, by 2.2 million more than the year before. The first growth of number of transported passengers since 2008 amounted to 0.84% in relation to the year 2010. In the same period, the railway undertakings delivered transport performance being the product of the number of passengers transported in particular routes and distances of their transport equal to 18,169 million passenger-kilometres (growth by 1.4%). Average distance travelled by one passenger was 68.7 km in 2011 and increased in comparison to the preceding year by 0.4 km. In the general number of transported passengers in 2011, 488 thousand constituted those who travelled on the narrow gauge lines (drop by 13.4%). On the infrastructure network with the gauge lower than 1435mm, 5.3 million passenger-kilometres were travelled, by 51.8% less than in 2010. Altogether, the narrow gauge railway undertakings launched around 12.8 thousand paths of a total length of 100 thousand kilometres. The average distance travelled by a passenger in this type of transport amounted to 10.9 kilometre in 2011. While analyzing the transport results in particular months of a year, the attention should be paid to characteristic changes in the number of passengers in winter and holi-

day period, which are the effects of diminishing the number of pupils, students and commuters, which is not compensated by the growth of number of recreation travels, e.g. travels to tourist places. Dynamic growth of passengers number in October is a result of the fact that this is the end of holiday period and commencement of the academic year. The attention should be paid to the change of tendency which was the case in 2011. In the months such as February, April, June and July 2011, the number of passengers was lower than in the year before. Since August, the reverse tendency was noticed. The number of transported passengers in particular months was higher than in 2010. In the months from August to December 2011, nearly 2.5 million passengers more than in the preceding year travelled (growth by 2.2%). The change of the tendency could be influenced among the others by the fuel prices, which only since September up to the end of 2011 increased by over 10%, increasing the cost of individual transport.

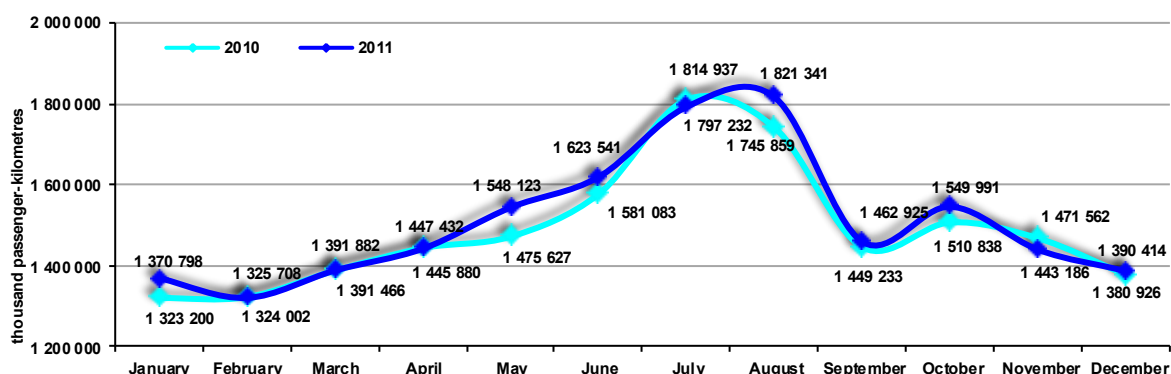
Tourist transport sector in the holiday period has a dominant influence on the increase of the transport performance, but only in July and August which specifies that making use of the railway as the transport mode while traveling for winter holidays is insignificant. The characteristics of the volume of transport performance in

**Number of passengers in particular months of 2010 and 2011**



/Source: Prepared by UTK/

**Transport performance in particular months of 2010 and 2011**



/Source: Prepared by UTK/

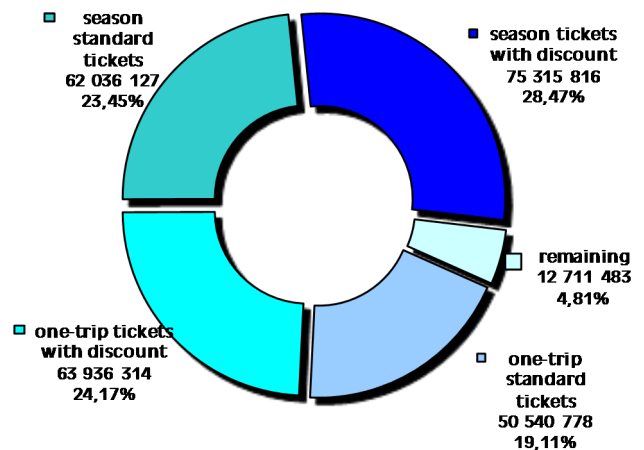


particular months of the year 2011 corresponds with the tendencies in the preceding years. Despite the growth of numbers of passengers in the months from August to December, the analogous growth of the transport performance in terms of pkm was not noted, which means that the higher number of passengers concerned exclusively the transport for short distances in the regional and agglomeration traffic. The volume of the operating performance in the whole 2011 amounted to around 144 million kilometres, nearly by 2% less than the year before.

What shall be noticed is a considerable decrease of length of activated train paths in the holiday period (July, August) by nearly 5%. It should be emphasized, that it had no influence on the fall of number of passengers and transport performance. Changes of the transport volume in particular months are a quite natural occurrence, which also took place in the preceding years. Holiday period constitutes an intensive demand for transport services, mainly in terms of long distances. In this period, demand for transport in agglomerations and in regional traffic decreases, but partially it compensates the growth of number of passengers in the long distance routes. Decrease of the number of passengers on the short distance trains is mainly influenced by reduction of demand for commuting to schools and workplaces.

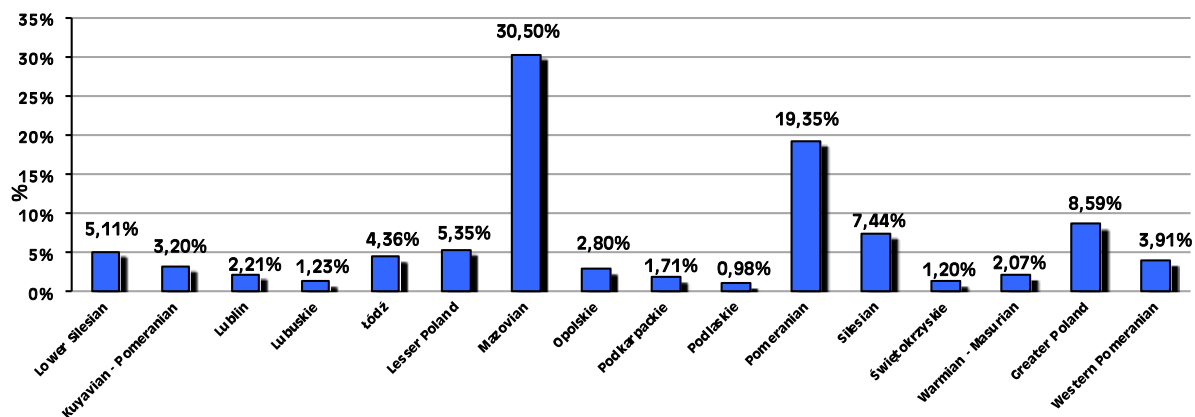
In the whole year 2011, there were 114.5 million passengers (by 3% more than in 2010) traveling on the basis of one-trip ticket. It constituted 43.3% of all performed transport (by 0.9% more than a year before). The remaining part was constituted by travels on the basis of seasonal tickets– 51.9% (137.4 million passengers) and on the basis of separate contracts with institutions, e.g. in the option common ticket – 4.8%. One of the examples was the Warsaw agglomeration with a common ticket for urban traffic and communication of SKM (Fast Urban Railway) in Warsaw and chosen sections of Warszawska Kolej Dojazdowa (Warsaw Commuter Railway) and Mazowieckie Railway (Koleje Mazowieckie). It should be underlined, that the share of transport on the basis of common offers and share of railway in the urban transport is still insignificant. Further development of this type of services can contribute to develop the transportation network of towns and agglomerations, and, thus, to dynamic growth of number of travelers using the railway both in suburban areas as well as within the area of the region.

**Number of passengers according to type of tickets in 2011**



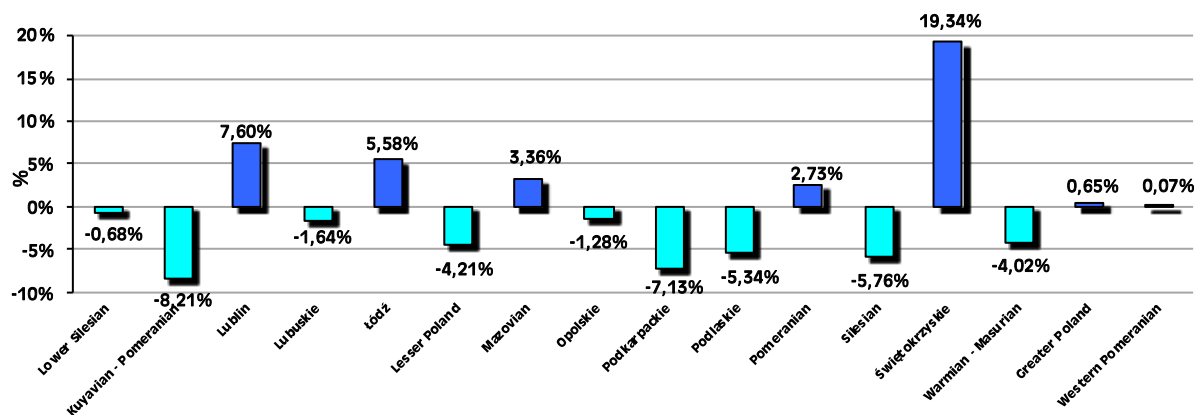
/Source: Prepared by UTK/

**Share of number of passengers according to the regions (according to number of checked-in persons) in 2011**



/Source: Prepared by UTK/

**Dynamics of number of passengers in the regions (according to number of checked-in person) in 2010/2011**



/Source: Prepared by UTK/

Taking into account the number of passengers checked-in in each out of 16 voivodeship in Poland, most of them started the journey in the Mazovian Voivodship, around 80 million people, which constituted 30.5% of all performed transport in Poland in 2011. High percentage was noticed in the region of Pomerania (19.35%), mainly due to big number of passengers using the PKP SKM *IPKP Fast Urban Rail in Tri-City* services in the Gdańsk, Gdynia, Sopot cities (Tri-City). The lowest share in the number of transported passengers presented the following voivodships: Podlaskie (0.98%), Świętokrzyskie (1.2%) and Lubuskie (1.23%). In 2010, the only region where the increase of passengers number was noticed, was the region of

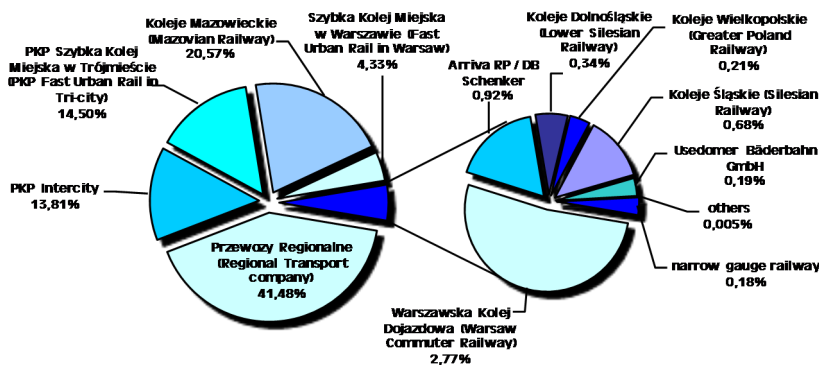
Mazovia. In 2011, the growth concerned already seven regions. The highest was noted in the Świętokrzyskie by 19.3%, (because of financing the bigger number of trains by local authority), Lublin Voivodship – 7.6%, Łódź Voivodship – 5.6% and the Mazovian Voivodship 3.4% (because of further concentration of transport in Warsaw agglomeration and efficient functioning of the railway as the element of urban transport system). The biggest decrease of the number of passengers was noticed in the following voivodships: Kuyavian-Pomeranian – 8.2%, Podkarpackie – 7.1%, Silesian – 5.8% and Podlaskie – 5.3%.



In 2011, similar to the preceding year, the biggest share in the market in terms of number of passengers belonged to the local-authority companies, including Przewozy Regionalne (Regional Transport company) 41.5% (decrease by 2.1% comparing to the year 2010) and Koleje Mazowieckie (Mazovian Railway) 20.6% (growth by around 0.3%). The average distance of the passenger journey in the transport performed by the local-authority companies amounted to 47.8 km (by 1,4 km more than in the year 2010). The share of the PKP Intercity company in terms of number of transported passengers amounted to 13.8%, towards 14.1% in 2010. The share of the local-authority companies which started their activity in 2011, including Koleje Śląskie (Silesian Railway) and Koleje Wielkopolskie (Greater Poland Railway) was insignificant and amounted analogously to 0.68% (1.8 million passengers) and 0.34% (566 thousand passengers). Measuring with the indicator of transport performance, the largest share belonged to the PKP Intercity company – 45.5% (decrease by 1.3%) and Przewozy Regionalne (Regional Transport company) – 36.5% (increase by 0.3%). The share of the remaining companies in the transport performance is considerable lower, including Koleje Mazowieckie (Mazovian Railway) – 10.3% and PKP SKM (PKP Fast Urban Rail in Warsaw) – nearly 5%. The share of the remaining railway undertakings did not exceed 1%, including SKM Warszawa (Fast Urban Rail in Warsaw) -0.95%, WKD (Warsaw Commuter Railway) – 0.63%, Arriva RP – 0.48%, Koleje Śląskie (Silesian Railway) – 0.3%, and Koleje Dolnośląskie (Lower Silesian Railway) – 0.17%.

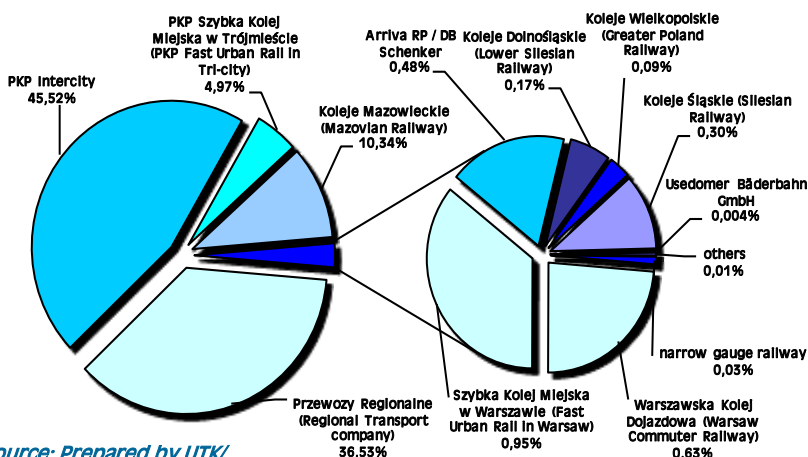
The share of the PKP group companies (including the timetable operating railway undertakings PKP Intercity and PKP SKM in Tri-City), in terms of pkm amounted to 50.5% (comparing to 2010 growth by 1.2%). PKP group railway undertakings made by 87.7 million passenger-kilometres less than in the year 2010 (around 1% fall). Considerable increase of the PKP Intercity company's share in 2009 was caused by the transformation process of the company Przewozy Regionalne (Regional Transport company) into the local-authority company and transferring the sector of interregional transport. The share in the market of transport performance of the PKP Intercity company increased from the level of 22% to nearly 55%. It needs to be underlined that since 2009, the PKP Intercity company's share has been considerably decreasing. In the year 2010 by 7.7% and in 2011 by 1.3% in relation to the preceding year.

**The railway undertakings share in the market according to the number of passengers in 2011**



/Source: Prepared by UTK/

**The railway undertakings share in the market according to the transport performance in 2011**



/Source: Prepared by UTK/



# Polish passenger railway market structure

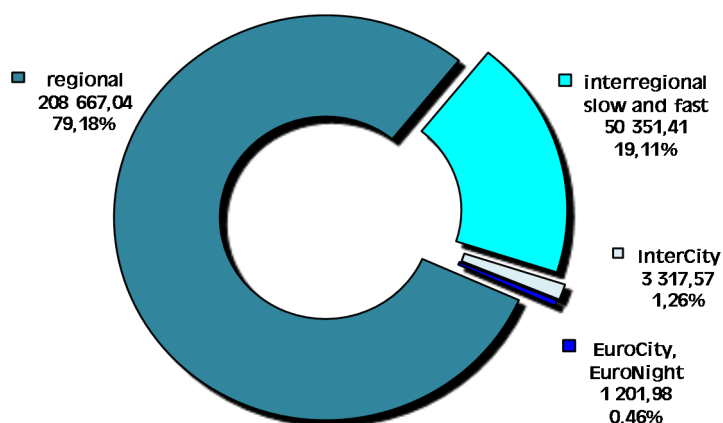


In the year 2011, the market segments which noted growth of the transported number of passengers were regional and international transport. Growth of transport, amounted correspondingly to 1.4% and 10.8%. In the regional transport, the number of passengers amounted to 208.7 million, by 2.8 million more than in the year 2010. In the international traffic, 2.5 million people were transported (growth by 243 thousand people), including 1.2 million by the EuroCity and EuroNight trains (growth by 136 thousand people). The reverse tendency than in the preceding year was noted in the sector of interregional transport. In 2011 this kind of traffic transported 53.7 million passengers by 686 thousand less than before a year (drop by 1.3%). Decrease of number of the passengers could have been caused by modernization works on the part of the railway infrastructure, and, thus, longer time of journey and decrease of railway attractiveness in relation to remaining modes of transport. There is a still increasing number of passengers using the railway in agglomerations, e.g. Tri-City (Gdańsk, Gdynia, Sopot) and Warsaw city. The PKP SKM company in Tri-City noted a growth of number of passengers equal to 1 million passengers (in 2011 38.4 million passengers altogether), and in Warsaw agglomeration: SKM Warszawa (Warsaw Fast Urban Railway) – 2 million passengers (11.5 in total) and WKD (Warsaw Commuter Railway) – 0.4 million (7.3 million passengers in total). The railway has efficiently joined the urban traffic system within the area of Warsaw as alternative, faster and more comfortable form of traffic, e.g. comparing to individual transport.

The largest share according to the number of travelers belongs to regional transport (including agglomeration) – 79.2% of all performed journeys by railway transport. The interregional transport (commuter and fast) constituted – 19.1%, InterCity – nearly 1.3% and transport by EuroNight and EuroCity trains – 0.46%.

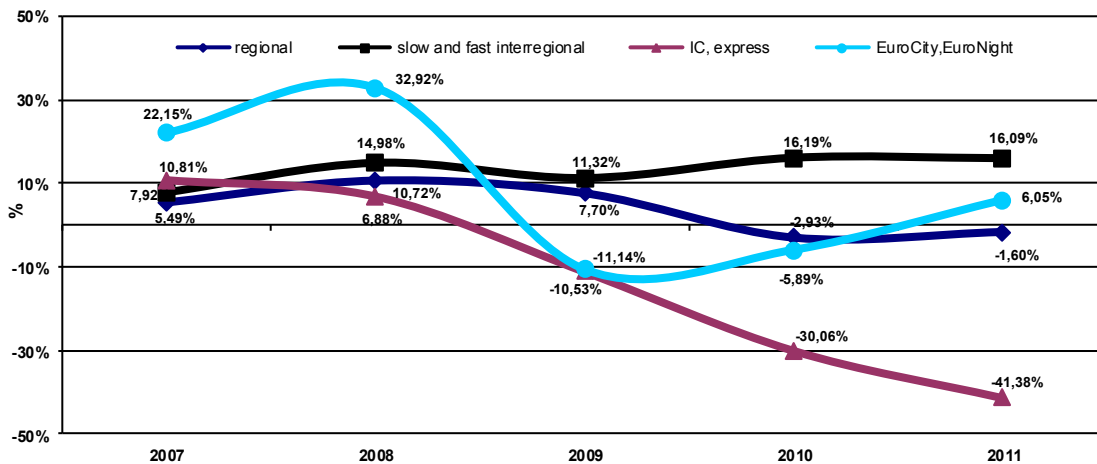
A very clear dependence should be noticed between the dynamics of the international transport, mostly in long distance sector (EC, EN trains) and the level of GDP index. Transport in this sector depends considerably on the economic situation in the country and in the world (clear decrease of transport by over 33% in 2009 in the period of economic crisis). In the year 2010 and 2011 transport in this sector of the market noted a growth which should be also maintained in 2012 and next years.

**The share of the passengers number in 2011 (according to sectors)**



/Source: Prepared by UTK/

**Change of the number of transported passengers in the years 2007-2011 (2006 = 0%)**



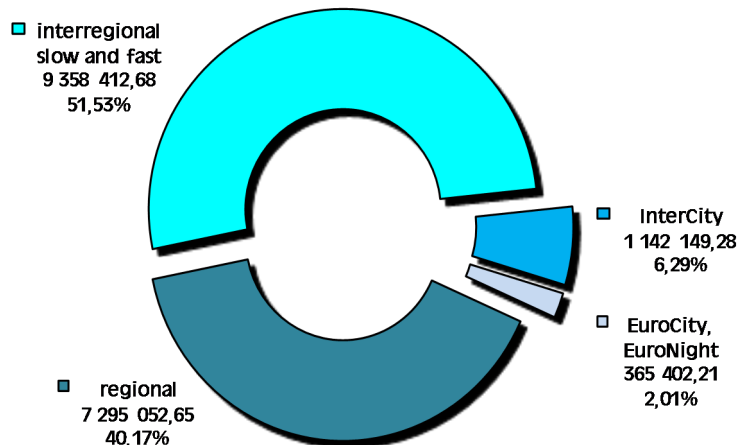
*/Source: Prepared by UTK/*

Despite the fact that in the years 2007-2011 transport maintains similar level in economic sector, transport by InterCity trains has noted a dynamic fall since 2007 which, according to the number of passengers, was equal to over 41%. The main factor determining the demand in this market sector is relation of the price (which is twice higher than in economic transport) to the time of travel (similar in both segments) with simultaneous high flexibility in relation to comfort of journey by train.

In 2011, the decrease of transport performance in terms of pkm apart from the German railway undertaking Usedomer Baderbahn, was noted only by one railway undertaking, the PKP Intercity company. It performed 8,271 million passenger-kilometres in 2011, by 117 million less than in the preceding year (decrease equal to 1.4%). The biggest fall, similar to the preceding year, concerned the transport performance by InterCity trains (IC) which amounted to nearly 17%. Over 51.5% of the transport performance by the railway undertakings was performed by interregional trains (including slow and fast trains). It constituted around 9,358 billion passenger-kilometres, by 2.9% more than in 2010 and by 10.1% more than in 2009. The remaining part of transport performance concerned

the regional trains – around 40.2% altogether (7,295 billion passenger-kilometres). In 2011 the performance in this market sector was higher by 2.6% comparing to the year 2010, but taking the year 2009 into account, there was a fall equal to 12.7%.

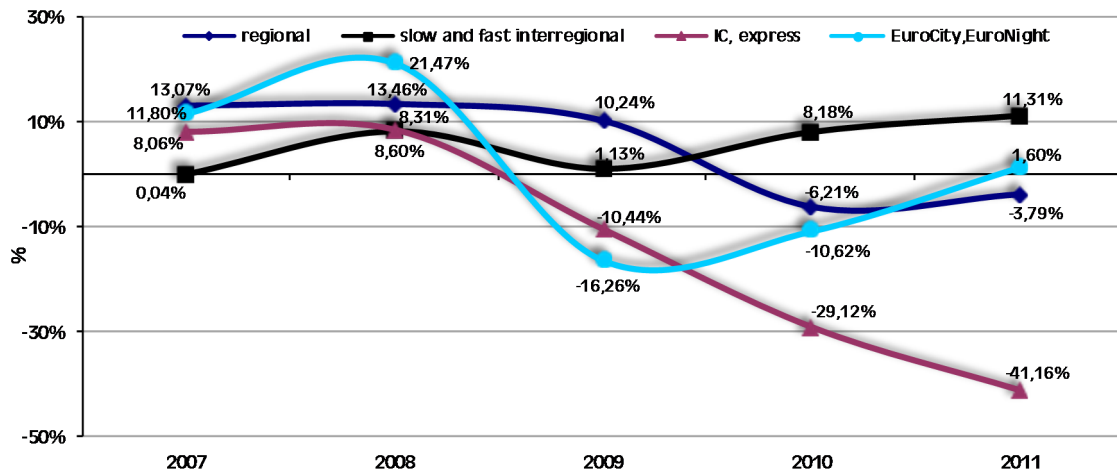
**Share of the transport performance in 2011 in pkm (according to sectors)**



*/Source: Prepared by UTK/*



**Change of the transport performance in the years 2007-2011 (2006 = 0%)**



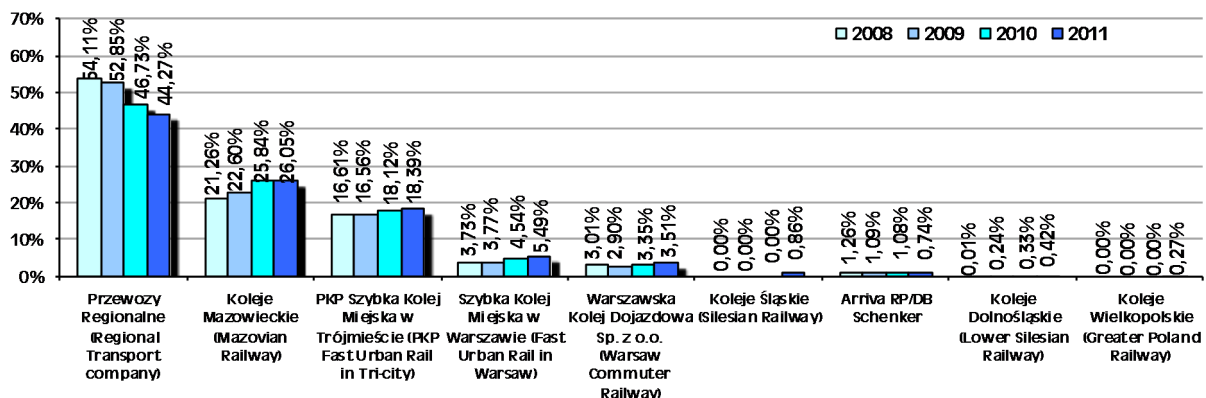
/Source: Prepared by UTK/



In the regional transport sector, taking into account railway transport in agglomerations, 9 licensed railway undertakings performed railway transport in agglomerations (two more comparing to 2010). Still, the largest share belongs to Przewozy Regionalne company (Regional Transport company) – at the end of the year it amounted to around 44.3%, decrease by 2.5% (in terms of the number of transported passengers). The biggest railway undertakings, as for the number of passengers, apart from Przewozy Regionalne (Regional Transport company), remained the companies Koleje Mazowieckie (Mazovian

Railway) and PKP SKM in Tri-City (PKP Fast Urban Railway in Tri-City), correspondingly 26.1 % (growth of the share by around 0.2%) and 18.4% (growth by nearly 0.3%). Jointly, the aforementioned companies held 88.7% share in the market of the regional transport. Railway undertakings, which started their activity in 2011 reached insignificant share in the regional market: Koleje Śląskie (Silesian Railway) – 0.86% and Koleje Wielkopolskie (Greater Poland Railway) – 0.27%. It needs to be pointed out that the companies have not performed their activity since the beginning of 2011.

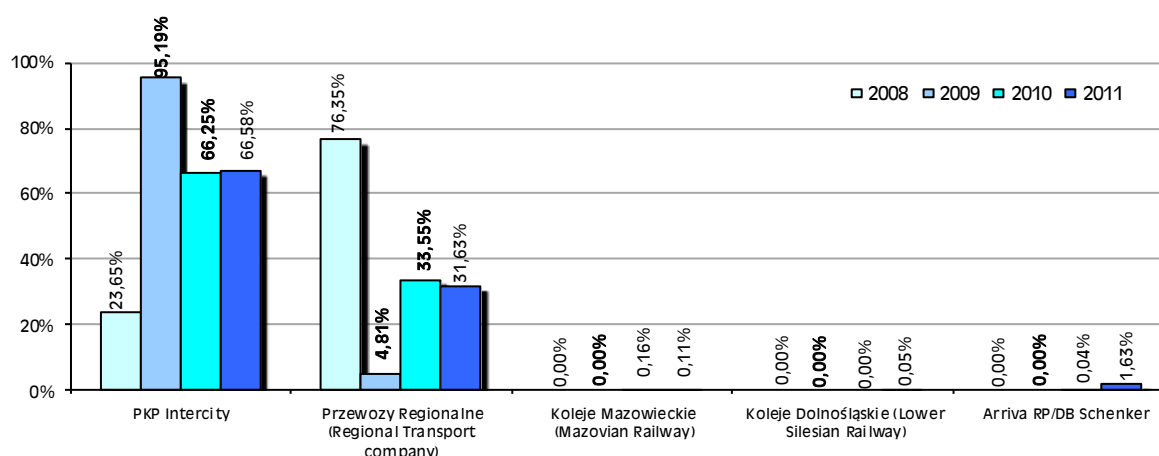
**The railway undertakings share in the market of regional transport according to the number of passengers**



/Source: Prepared by UTK/



## The railway undertakings share in the market of interregional transport according to the number of passengers



/Source: Prepared by UTK/

5 licensed railway undertakings (one more comparing to 2010) performed their activity in terms of interregional transport. The largest share similar to the level from 2010 belonged to the PKP Intercity company -66.6% of general volume of the number of passengers. The share of Przewozy Regionalne company (Regional Transport company) slightly decreased (by nearly 2%) to the level of 31.6%. Increase of the Arriva RP company share was caused by the fact that part of the interregional transport was not included in the statistics in 2010. At the end of 2011 the company had a share at the level of 1.6%.

The remaining railway undertakings reached the following level: Koleje Mazowieckie (Mazovian Railway) (0.11%), Koleje Dolnośląskie (Lower Silesian Railway) (0.05%).

Average distance travelled by a passenger in the railway transport has been oscillating at a similar level of 67-69 kilometres. In 2011 it amounted to 68.7 km, by 0.4 km less than in the preceding year. Lack of fluctuation of this measure demonstrates that there are no changes in the passengers preferences and there is lack of dynamic development of one of the market sectors.

## Average distance travelled by a passenger according to the type of trains in the years 2003-2011

specification		years								
		2003	2004	2005	2006	2007	2008	2009	2010	2011
domestic market in total		68,62	67,50	69,16	69,67	69,94	69,22	67,16	68,30	68,68
including	regional	35,48	35,09	35,86	35,76	38,33	36,63	36,97	34,55	34,96
	slow and fast interregional	181,80	184,94	191,23	193,84	179,68	182,59	176,10	180,47	185,86
	express	336,65	340,96	343,94	343,05	340,88	352,54	346,03	337,31	-
	InterCity	337,48	342,00	341,08	342,88	326,43	343,95	345,37	347,94	344,27
	EuroCity, EuroNight	289,91	308,01	318,80	317,29	290,40	289,97	296,98	301,32	304,00
PKP Group		69,80	68,72	77,28	78,71	78,97	80,57	122,13	124,51	122,48
including	regional	36,00	35,58	36,66	36,29	38,96	38,26	19,73	23,39	23,52
	slow and fast interregional	181,80	184,94	191,23	193,84	179,68	182,59	178,37	208,74	211,26
	express	336,65	340,96	343,94	343,05	340,88	352,54	346,03	337,31	-
	InterCity	337,48	342,00	341,08	342,88	326,43	343,94	345,37	347,94	344,27
	EuroCity, EuroNight	289,91	308,01	318,80	317,28	290,40	289,96	296,98	301,32	304,00
local authority railways		17,40	18,23	33,08	34,14	36,56	33,09	39,78	46,45	47,80
narrow gauge railways		18,43	15,02	18,05	18,05	19,64	16,16	17,01	19,65	10,93

/Source: Prepared by UTK/

In 2011 there was a slight decrease of number of trains run each day by all the railway undertakings. They operated 4 062 trains on average, by 1.2% (50 routes) less than in 2010. The biggest number of trains run each day belonged to the Przewozy Regionalne company (*Regional Transport company*) – around 2 273. They constituted 55.9% of all routes activated by railway undertakings. The growth of number of trains run each day in relation to the preceding year was noted only by the following companies: Koleje Mazowieckie (*Mazovian Railway*) (by 7.8%), SKM Warszawa (*Fast Urban Rail in Warsaw*) (61.3%), Koleje Dolnośląskie (*Lower Silesian Railway*) (32.6%) and UBB (1.4%).

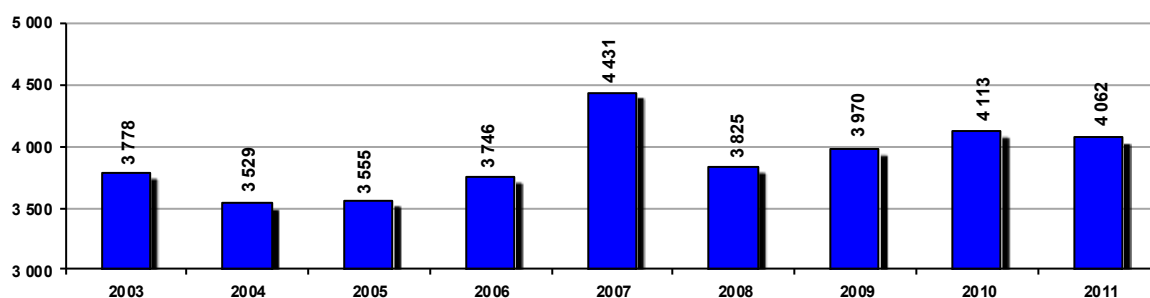
In 2011, the average number of wagons per operated train of all the railway undertakings amounted to 4.38 (by 1.4% less than in 2010). This number includes performing the transport in all communication, including regional transport with the use of wagons being an integral part of electric and diesel multiple units. The above indicator is a quotient of wagon-kilometres of the passenger wagons and operation performance made by railway undertaking expressed in train-kilometres.

Taking into account the operation performance in train-km made by railway undertakings in 2011, the attention should be paid to the reverse tendency comparing to 2010—the decrease of number of passengers with the simultaneous growth of transport performance (length of the activated routes). In 2011, despite the decrease of

the operation performance (train-km) by 1.7%, the growth of number of passengers was noticed by nearly 1%. It determines the slight improvement of efficiency of the railway undertakings activity, which among the others means better adjustment of the timetable to the passengers needs. The biggest operation performance in 2011 was noted by the Przewozy Regionalne company (*Regional Transport*) – nearly 71.2 million train-km and the PKP Intercity company – around 45 train-km. Both companies recorded decrease of the performed activity in train-km in relation to the preceding year, by 3.8% and 6.2% correspondingly.

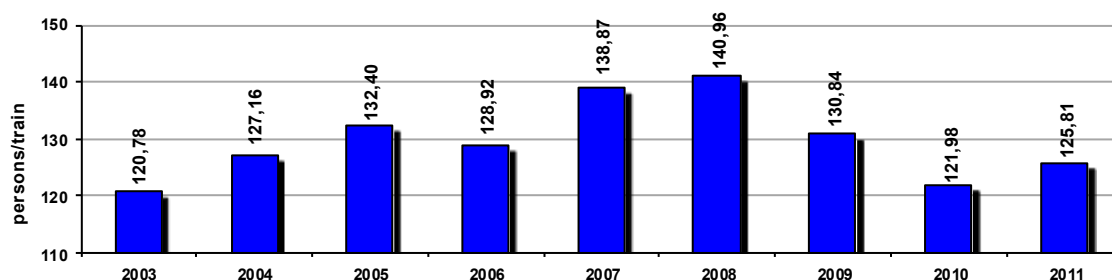
The indicator reflecting the effectiveness of making use of the transport offer is an average number of passengers on the trains of particular railway undertakings, measured as a quotient of transport performance and operation performance while realising the transport services. In 2011, this indicator amounted to nearly 126 people per train, by 3.1% more than in the preceding year. Most of the railway undertakings have kept the same level or recorded a growth of the average number of passengers per operated train, including among the others the following companies: Arriva RP (19.2%), PKP SKM in Tri-city (*PKP Fast Urban Train in Tri-City*) (8.4%), Przewozy Regionalne (*Regional Transport company*) (6.3%), PKP Intercity (5.1%) and Warszawska Kolej Dojazdowa (*Warsaw Commuter Railway*) (5.1%).

#### Average number of trains run each day by all the railway undertakings in the years 2003-2011



/Source: Prepared by UTK/

#### Average number of passengers on trains in the years 2003-2011 (person/train)



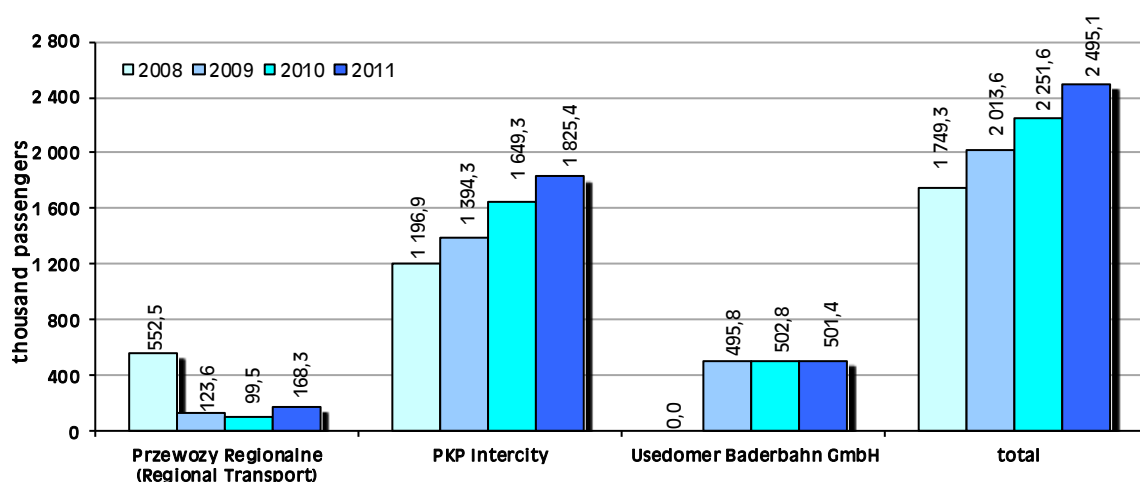
/Source: Prepared by UTK/

# International passenger railway transport

In 2011, the passenger transport in international traffic (including transport in cross-border area) was performed by 3 railway undertakings: PKP Intercity S.A. (long distance trains, including Eurocity, EuroNight), Przewozy Regionalne sp. z o.o. (Regional Transport company) (at-border trains and InterRegio) and Usedomer Baderbahn GmbH (Świnoujście Center trains – border of the State – Stralsund Germany). In 2011, in the international traffic, there were 2.495 mln passengers transported, by 243.5 thousand more than in 2010 (growth of around 10.8%). The transport performance was made at the level of 586.4 million pkm, by 10.5% more than a year before. The average distance travelled by a passenger did not change and amounted to 235 kilometres.

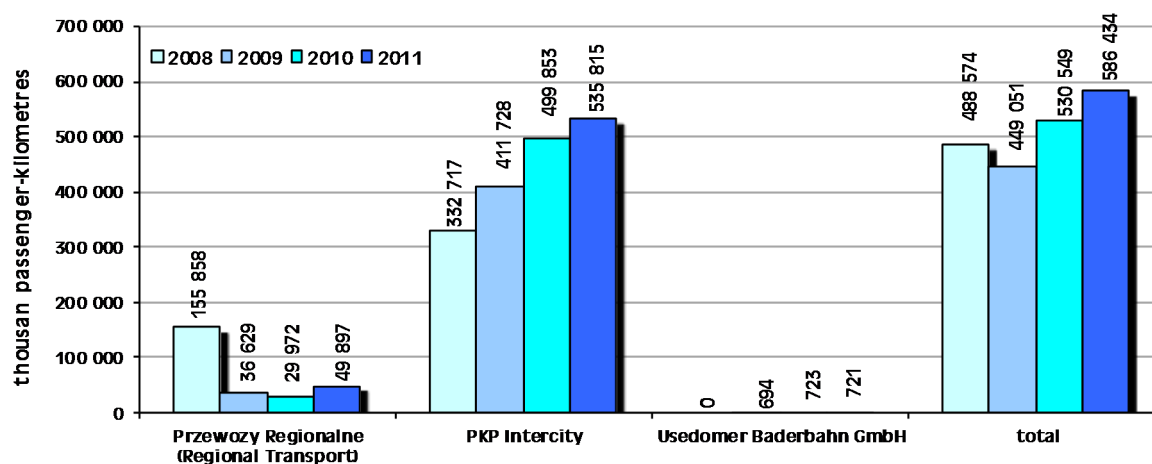


**Number of passengers in the international traffic in the years 2008-2011**



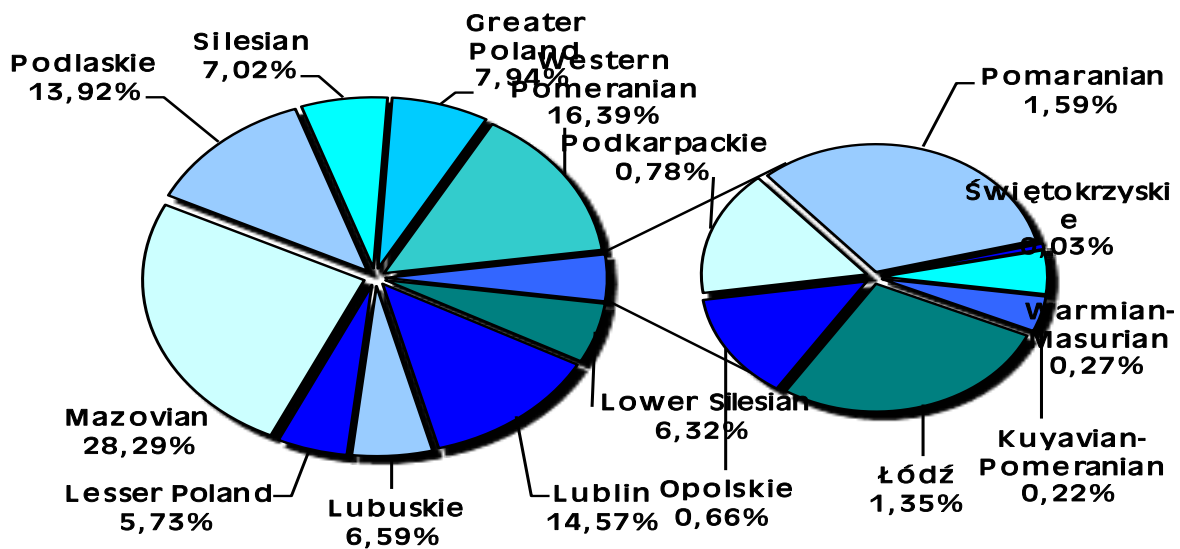
*/Source: Prepared by UTK/*

**Transport performance in the international traffic in the years 2008-2011**



*/Source: Prepared by UTK/*

**Share of the voivodship in the international transport in 2011 (according to the place of departure)**



*/Source: Prepared by UTK/*

Increase of number of passengers concerned the following railway undertakings: Przewozy Regionalne (Regional Transport) – 168.3 thousand people altogether (69%), and PKP Intercity – 1.825 million (10.7%). Slight transport decrease (0.3%) was recorded by the German railway undertaking Usedomer Baderbahn which transported around 1.4 thousand passengers less than the year before. The largest share in transport in the international traffic, in terms of the number of passengers, belonged to the companies PKP Intercity (73.2%) and Usedomer Baderbahn (20.1%) while as far as transport performance is concerned PKP Intercity (91.4%) and Przewozy Regionalne (8.5%). It needs to be indicated that the share of transport in the international traffic on the whole passenger market is still insignificant. At the end of 2011, similarly to the previous year, it amounted to nearly 0.9%. In terms of transport performance, it was at the level of 3.2% (growth of share by 0.3%).

As far as the place of departure is concerned (on the territory of Poland), the highest percentage constituted travels from Mazovian Voivodship – 28.3% (growth of share by 1.9% comparing to the preceding year), West

Pomeranian Voivodship – 16.4% (growth by 0.6%), Lublin Voivodship – 14.6% (growth by 6.8%) and Podlaskie Voivodship – 13.9% (growth by 5.3%). The share of the remaining regions did not exceed the level of 7%.

The highest number of passengers crossed the Terespol – Brest border on the Belarusian border, 620 thousand people altogether (growth by nearly 61% comparing to the previous year). This border crossing's share increased to the level of 26.75%. Journeys on the border crossings at the German border constituted high percentage, including Świnoujście – Ahlbeck with the transport delivered by the German railway undertaking Usedomer Badenbahn – 501 thousand people (21.6%) and Kunowice – Frankfurt (Oder) on the Oder River – 447 thousand people (19.3%). Similarly as in the year 2010, the largest number of passengers made journeys from and to Germany. In 2011 this transport amounted to: at the departure - 55.3%, at the arrival on the territory of Poland – 49.5%, towards 52.8% and 57.6% in 2010. In terms of number of passengers, the next travels were between Poland and Belarus (departure – 24.7%, arrival – 26.9%) and the Czech Republic (7.6% and 6.4%) and Ukraine (4.9% and 5.1%).



## Structure of the rolling stock held by railway undertakings

In 2011, in the quantitative structure of the passenger rolling stock there were no big changes in relation to the previous year. There was a slight increase in the quantity of electric multiple units, the number of which was 1,248 items at the end of the year, by 43 more than in 2010 (growth by 3.5%). The number of railway vehicles in the electric multiple units increased from 4,037 to the level of 4,221 items (increase by 4.5%). This translated also into the 2.3% growth of number of railway vehicles in general (including in electric multiple units) to the level of 8,079 items. Also the number of diesel vehicles held by railway undertakings increased. Totally at the end of 2011 there were 252 of them (growth by 9.5%), of which the stock of the so called railbuses was 205 items (growth by 11.4%). The total number of locomotives fell slightly, from 706 down to 674 (by 4.5%), of which diesel ones – from 298 down to 277 (by 7%), and electric ones – from 392 down to 380 items (fall by 3.1%). The differences in statistic data at the turn of 2008 and 2009 concerning the traction and wagon rolling stock in local authority and PKP Group companies are the result of transferring in 2008 a part of assets of the company Przewozy Regionalne to the company PKP Intercity.

Taking into account the stock of locomotives, similarly as in 2010, electric locomotives EP07 (153 items) and EU07 (149 items) with the design speed of 125 km/h had the largest share. The share of locomotives with their speed allowing transport up to 160 km/h is still minor, being no more than 9%, of which electric locomotives EP05 (1 item), EP09 (47 items) and EU47 (11 items). Railway undertakings held also 10 electric locomotives EU44 series (Husarz) to provide transport with the speed up to



### Quantitative structure of rolling stock (including narrow-gauge railways)

type of rolling stock	year									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
locomotives in total	53	70	75	75	124	618	691	706	674	
including electric locomotives	0	0	0	0	31	314	384	392	380	
including diesel locomotives	48	63	67	66	79	290	292	298	277	
including steam locomotives	5	7	8	9	14	14	15	16	17	
electric multiple units	1 176	1 165	1 170	1 170	1 174	1 186	1 194	1 205	1 248	
diesel vehicles	32	51	88	104	98	165	175	230	252	
including railbuses	28	45	80	93	72	116	154	184	205	
passenger wagons	9 010	8 829	8 487	8 353	8 247	8 060	7 921	7 900	8 079	
including electric multiple units	3 580	3 586	3 648	3 672	3 718	3 797	3 853	4 037	4 221	

/Source: Prepared by UTK/

230 km/h; due to technical aspects of the railway infrastructure (line infrastructure), they were used for transport up to the maximum speed of 160 km/h.

EN57 units dominate in the quantitative structure of electric multiple units, with their total number of 1,054 items at the end of 2011, of which 40 upgraded by the company Koleje Mazowieckie (EN57KM). The maximum design speed of such type traction units did not exceed 110 – 120 km/h.

Taking passenger cars, almost 50% in the total number of 3,858 items (except for cars in electric multiple units) belonged to 111A and 112A cars (1,260 and 628 items) allowing transport with the speed of 120 km/h (111A) and 160 km/h (112A). Railway undertakings held also 115 dining cars, 3 baggage cars and 37 special structure cars. In 2011, the average age of locomotives fell from 33.3 years down to 29.3 years (taking into account the entire market), including the fall from 32.1 years down to 26.2 years noted at PKP Group. This was mainly a consequence of withdrawal or sale of a part of the rolling stock with their age in excess of 40 years. In 2011, four standard gauge railway undertakings held locomotives, of which PKP Intercity – 433 items (28 down from 2010), Przewozy Regionalne – 110 items (25 down from 2010), Koleje Mazowieckie – 11 items (purchase of TRAXX – Hetman locomotives) and Koleje Dolnośląskie – 1 item. The average age of cars and electric multiple units did not change materially, being analogically 28.8 years (towards 28.2 years in 2010) and 27.4 years (towards 27.7 years). Despite upgrading and substitution of a part of the car stock, these vehicles still do not meet passengers' expectations in respect of comfortable journey. In addition, technical parameters are a barrier to reduction of travelling time, preventing from enjoyment with fully upgraded railway sections. Taking into account the stock of cars held by the largest railway undertakings, it should be noted that their average age is still in excess of 25 years, with 26.6 years at PKP Intercity (0.3 more than in the preceding year), and 33 years at Przewozy Regionalne (similarly as in 2010).

Lightweight rail vehicles (including railbuses) with their average age of approximately 10.4 years at the end of 2011 were definitely among the youngest rolling stock held by railway undertakings. The growth of the average age comparing to 2010 (with more than 2 years) was a consequence of the fact that narrow gauge railway undertakings' vehicles with their average age of several dozen years had been included in the statistics. The average age of lightweight vehicles of local authority companies decreased from 6.7 down to the level of 6.4 years.



# Volume, structure and efficiency indicators of the railway market

In 2011, similarly to the years 2008-2010, there was a process of reduction of the employees headcount in the passenger transport sector. At the end of 2011, the number of persons employed by all railway undertakings amounted to 25,915, by 2.87% less than in 2010. The high increase of the number of employees in 2008 resulted from taking over by Przewozy Regionalne company (Regional Transport) and then by PKP Intercity the part of the employees hired so far by the freight undertaking PKP Cargo. Decrease of the number of employees in 2011 was caused by further reduction of employment, in the restructuring process, and, thus, further necessity of minimizing the activity costs by the railway undertakings. The decrease concerned the biggest entities, including: PKP Intercity – 6% and Przewozy Regionalne (Regional Transport company) – 5.7%.

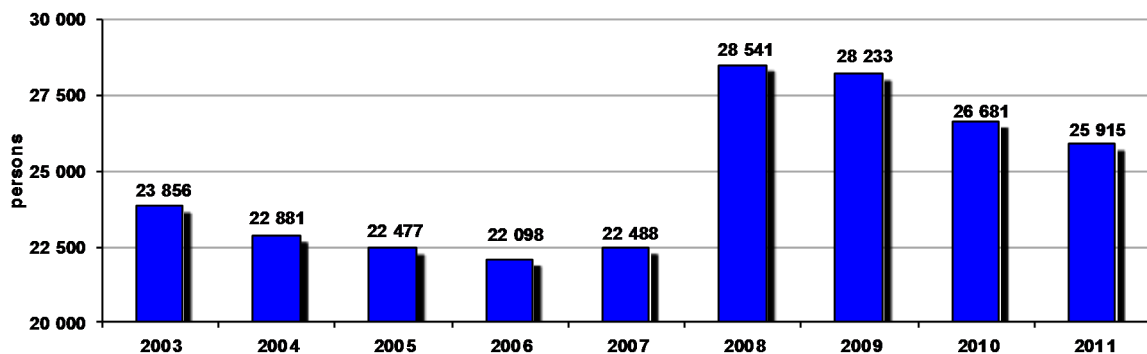
The highest percentage of the employees was employed by Przewozy Regionalne company (Regional

Transport) (over 50% of all employed in the sector of passenger railway transport), PKP Intercity (around 30%) and Koleje Mazowieckie (Mazovian Railways) (10%).

In 2011, the entrepreneurs functioning on the market recorded the increase of income due to the operating activity. It resulted mainly from increasing the general volume of transport (number of passengers by nearly 1% and transport performance by 1.4%) and increasing the income from tickets sale and the level of co-financing by the local authorities of the region.

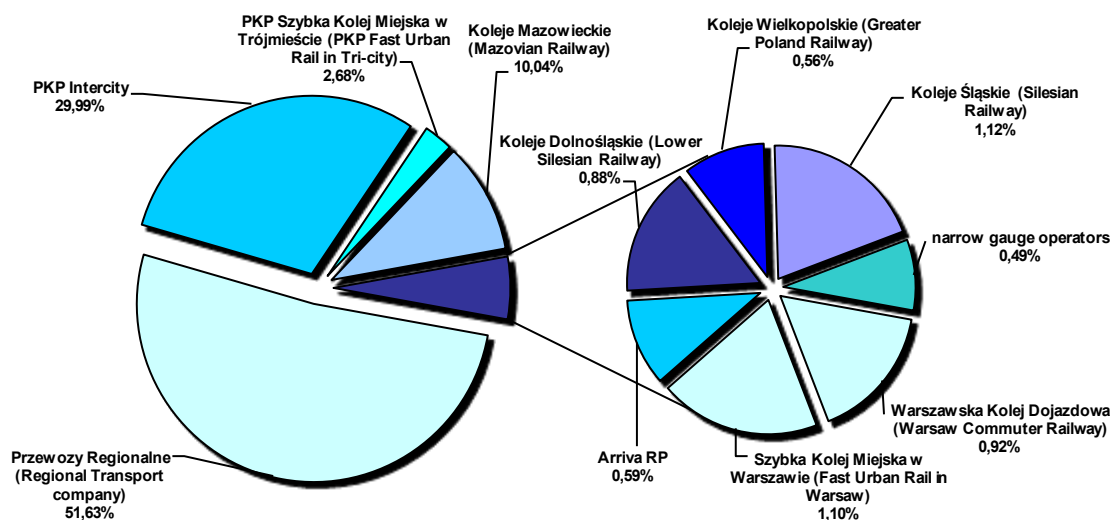
In comparison to the year 2010, the companies' income increased by 7.8% (344 million PLN). In the same period, the operating costs of the railway activity rose by around 4.6% (211 million PLN). Altogether, the market recorded a loss at the level of around 15 million PLN which was lower by around 135 million than the loss recorded in 2010. It should be emphasized that the passenger railway undertakings' income included the subsidies,

## Employment in the rail passenger sector in the years 2003-2011



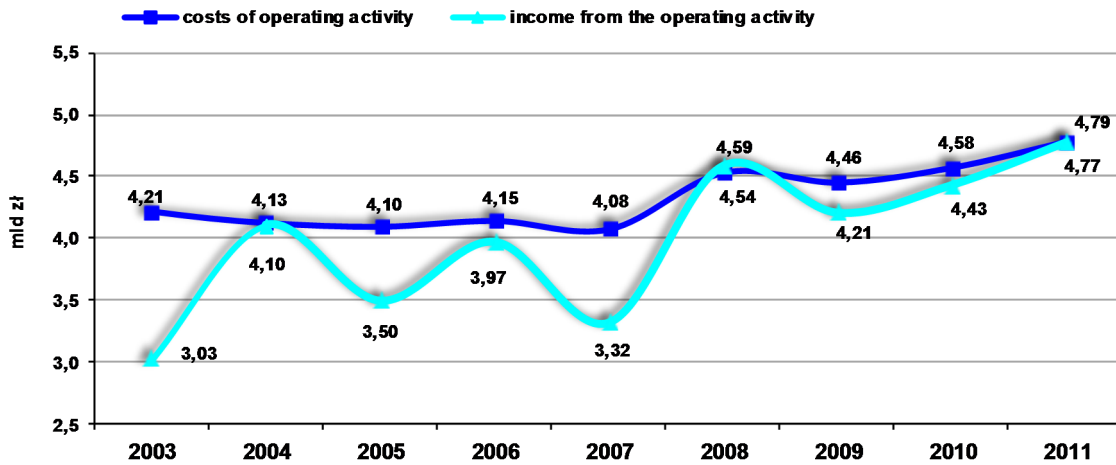
/Source: Prepared by UTK/

## Employment structure in 2011—passenger operators



/Source: Prepared by UTK/

**Results of the passengers railway undertakings activity (billion PLN) in the years 2003-2011**



*/Source: Prepared by UTK/*

both received from the State budget as well as from local authorities, allocated for delivering the public services and covering the deficit due to granting the statutory discounts. Apart from subsidies, the main source of income of the railway undertakings was the yield from the tickets sale. This yield influenced directly the whole financial results of particular enterprises functioning on the market. In 2011 the sale of transport services generated around 59% of total income of the railway undertakings (around 3% less than in 2010). In 2011, in the general amount of incomes over 41% constituted subsidies for realising public services and special-purpose subsidies to the statutory discounts. The railway undertakings received 1.975 billion PLN for this purpose, by 15.7% more than the year before (growth by 268 million PLN). In the total amount of subsidies received by the railway undertakings, 380 million constituted the ones covering the loss from the sale of tickets with statutory discount. The incomes from the operating activity, including the sale of transport services (tickets), amounted to 2.8 billion PLN and were higher by 2.1% comparing to 2010. In 2011, the railway undertakings' income calculated per one employee amounted to 184 thousand PLN, by 18 thousand more than

the year before (increase of the factor by 10.5%). Together with the increase of income, including the level of received subsidies, in 2011 all the railway undertakings recorded increase of income per one transported passenger, which amounted to 18.05 PLN, by 6.9% more than in 2010. There will be a similar dynamics while analyzing the incomes gained from performing one passenger-kilometre. Comparing to the previous year, this indicator increased by around 6.4% for the entire market and amounted to 0.263 PLN. Together with the increase of incomes, the railway undertakings recorded simultaneous increase of costs of performed operation activity in 2011. The costs of the entire market increased to the level of 18.10 PLN per one transported passenger, relating to 17.45 PLN in 2010 (increase by 3.7%). It needs to be indicated that the increase of costs was lower than the incomes dynamics, what had a positive reflection in the financial situation of the railway undertakings. In 2011 the supply of transport services maintained still at a high level (slight 2% drop in comparison to 2010), what still generated high fixed costs. The share of costs per one performed passenger-kilometre amounted to 0.264 PLN – 3.5% more than in 2010.





# Evaluation of the quality of the railway transport services

The quality of services delivered by the railway undertakings has been improving. The railway undertakings and companies organizing the transport services notice the necessity of investing in the traction and wagon rolling stock. There are more and more works dealing with development and modernization of railway stations. In 2011, the repair works covered over 70 facilities. Unfortunately, it must be stated, that the Polish railway undertakings have still a long way to reach the necessary minimum defined in the act of 15 November 1984 on the transport law, as 'adequate safety and hygiene conditions as well as comfort and appropriate service'. The fundamental problems the passengers face are connected with inappropriate conditions concerning the hygiene, comfort and appropriate service. Railway rolling stock being in use is worn out to a large extent and the railway undertakings reduce the expenditures exclusively to the repair, modernization and maintenance works. Cleanliness of the railway rolling stock, railway stops, railway stations and railway buildings does not fulfill the necessary minimum which would allow the passengers to travel in appropriate, comfort condition. In the recent years, the quality of railway traffic service has considerably changed, but still, the disabled passengers or passengers with reduced mobility meet the cases where they lack the appropriate, necessary assistance and aid during their travel by train. Railway stations, buildings and railway facilities are still not adjusted to the needs of passengers with disabilities. It should be noticed, that the

provisions of the regulation (EC) No. 1371/2007 of the European Parliament and Council of 23 October 2007 concerning rights and duties of the passengers in the railway traffic determine the minimum requirements towards the railway undertakings and railway stations managers (which should be fulfilled) but despite those provisions the condition of the railway infrastructure access for disabled persons still requires a lot of considerable changes.

The positive tendency is the improvement of punctuality of the passenger railway transport. In 2011, the punctuality of the trains at the destination station amounted to 89.83%, in comparison to the previous year there was an increase by 4.74% (2010 = 85.09%). The average time of trains delay, excluding the delays up to 5 minutes, amounted to 20 minutes 26 seconds, nearly by 3 minutes less than in 2010. In 2011, the railway undertakings run 1.478 million trains. Number of trains which in 2011 did not approach the destination station on time amounted to 420.6 thousand, by 4.2% less than in 2010. In this number, 64.3% (270.3 thousand) were the trains delayed up to 5 minutes. The trains delayed from 5 to 60 minutes constituted 34% (143.1 thousand), from 1 to 2 hours – 1.3% (5.3 thousand) and more than 2 hours – 0.45% (1.9 thousand). In 2011 there was a decrease in number of the cancelled trains. 21.7 thousand trains did not started the journey, by 1.3% less than in 2010. To analyze the arrival punctuality indicator, the trains which were taken into consideration were the ones which approached the desti-

## Passenger operators' punctuality in 2010 and 2011

	2011	2010	change 2011/2010
total	89,83%	85,09%	4,74%
total regional	91,55%	86,83%	4,72%
total interregional	81,47%	72,22%	9,25%
total international	90,41%	72,73%	17,68%
PKP Intercity	77,00%	69,12%	7,88%
Przewozy Regionalne [Regional Transport company]	89,43%	83,93%	5,50%
Koleje Mazowieckie - KM [Mazovian Railway]	90,01%	86,69%	3,32%
PKP Szybka Kolej Miejska w Trójmieście [PKP Fast Urban Rail in Tri-City]	98,18%	97,31%	0,87%
Szybka Kolej Miejska w Warszawie [Fast Urban Rail in Warsaw]	93,42%	87,31%	6,11%
Warszawska Kolej Dojazdowa [Warsaw Commuter Railway]	99,50%	99,63%	-0,13%
Koleje Dolnośląskie [Lower Silesian Railway]	93,82%	89,60%	4,22%
Koleje Śląskie [Silesian Railway]	81,45%	-	-
Koleje Wielkopolskie [Greater Poland Railway]	90,73%	-	-
Arriva RP	91,06%	93,84%	-2,78%
UBB GMBH	98,69%	97,60%	1,09%

/Source: Prepared by UTK/

nation station with the delay exceeding 5 minutes. The punctuality indicator at arrival is a quotient of number of trains which approached the destination station on time (including trains delayed up to 5 minutes) and number of all trains activated by the railway undertakings.

The highest indicator of punctuality was recorded in the regional transport which amounted to around 91.5%. The lowest one concerned interregional transport – 81.5%. In the regional transport, the trains approached the destination station with 18.5 minutes delay on average. In the interregional transport – around 24.6 minutes, in international transport – 23 minutes. The delays, independently from the train route are unfortunately the elements which cannot be fully eliminated. In the winter periods, delays are mainly caused by bad weather conditions, among other things by icing the traction network, freezing the switches and cracking the rails. In the summer periods, delays are caused by modernization works performed on the considerable part of railway infrastructure. The factor having the influence on the disturbances of timely delivery of transport is also often stealing the traction network, elements and devices of the railway infrastructure.

In terms of evaluation of the railway services quality, what should also be analyzed, is the distribution of tickets, including the possibility to purchase them with the use of modern information and telecommunication technologies. The railway undertakings carried 1,049 stationary ticket offices in total, around 122 less than in 2010. In this number, 79% constituted the PKP Intercity and Przewozy Regionalne (Regional Transport company) ticket offices. More often, the sale of tickets is realized by means of stationary self-service tickets issuing machines. Their total number in 2011 amounted to 83 pieces. The direct sale on the board of train becomes also more popular. At the end of 2011, the number of mobile ticket issuing machines and terminals amounted to 2,536 pieces. There are also modern channels of ticket distribution which become more popular, e.g. with the use of the railway undertakings websites (PKP Intercity, Przewozy Regionalne (Regional Transport company) or by the phone equipped with a special application (Arriva RP, Koleje Mazowieckie (Mazovian Railway), Koleje Śląskie (Silesian Railway), Przewozy Regionalne (Regional Transport company), SKM (Fast Urban Rail in Warsaw), WKD (Warsaw Commuter Rail)). The changing structure of tickets distribution more and more meets the expectations of railway transport customers, especially in terms of the variety of distribution channels. A disadvantage may be the diminishing number of stationary ticket offices, in particular their lack at the stations and stops where there are not a big number of travelers. Still, not all tickets distribution

channels allow to make a non-cash payment, e.g. by debit card or credit card. Out of the total number of 1,049 stationary ticket offices, only 451 made it possible to make non-cash payment.

Relatively low quality of transport services is reflected to a considerable extent by number of complaints and claims directed by the passengers to the railway undertakings. In 2011, the passengers submitted 7,020 complaints and 27,765 claims in total, that is correspondingly 11.4% and 1.4% more than in 2010. In a total number of claims, nearly 15.4 thousand (55.5%) were examined for the benefit of the passengers. Total amount of compensation paid to the passengers amounted to 803 thousand PLN (on average 49.5 PLN per person). The increased number of cases directed to the railway undertakings may be the result of rising awareness of the travelers concerning the possibility to complaint and claim, or in the case of unsatisfactory reply, to bring the case to the superior body which is the President of the Office of Rail Transportation (UTK).



# Protection of the passengers' rights

The provisions of the regulation (EC) No. 1371/2007 of the European Parliament and Council of 23 October 2007 on rights and duties of the passengers in the railway traffic came into force in Poland and are binding since 3 December 2009. The range of their application in relation to regional transport and remaining domestic transport and also connections with the stations situated out of the European Union territory, includes the following issues:

- ✓ entering into and way of executing the contract on transport according to international CIV provisions ,
- ✓ ensuring the possibility to transport bicycles,
- ✓ obligation to provide information required by a passenger before commencement of the travel,
- ✓ ensuring the possibility to acquire a ticket at the station or on a train,
- ✓ responsibility for the passengers and their luggage according to international CIV provisions,
- ✓ obligation to possess the third party insurance by the railway undertaking,
- ✓ ensuring the passenger the right to resign from the journey (with the right to free of charge return to the departure station), change of the journey's date or route in the case of anticipated delay exceeding 60 minutes,
- ✓ applying nondiscriminatory principles of disabled persons transport,
- ✓ ensuring the information for disabled persons,
- ✓ taking efforts to provide aid for disabled persons during the journey,
- ✓ conditions of providing aid for disabled persons,
- ✓ obligation to care of passengers' personal safety,
- ✓ obligation to accept and examine the claims by railway undertakings
- ✓ obligation to define and monitor the quality norm of services and to implement the system of quality management,
- ✓ obligation to inform the passengers about their rights, including the possibility to submit claims,
- ✓ passengers' right to submit claims to the designated body (in Poland the President of UTK).

On 25 May 2011 the Minister of Infrastructure issued a regulation on exemption from applying certain provisions of Regulation 1371/2007, on the basis of which Minister's regulation the number of services, where passengers are entitled to compensation for train delays, increased. The definite majority of provisions of the regulation, insofar as they are in force in Poland, were im-

plemented by all railway undertakings providing regular passenger transport. Supervising actions disclosed only few cases of failure to provide information on the timetable to passengers before starting their journey, providing wrong information on transport contract terms and conditions, refusal of sale of a ticket with seat reservation, failure to provide information on passengers' rights, manner of submitting complaints and details allowing contact with the Office of Rail Transportation, and failure to take actions to provide assistance to a disabled person or a person with reduced mobility.

As regards the supervision over compliance with Regulation 1371/2007, in 2011 the President of the Office of Rail Transportation exercised 25 inspections of railway undertakings. As a result thereof, the President instituted 3 administrative proceedings concerning violation of the Regulation. As regards handling with complaints about violation of provisions of the said Regulation, 35 complaints meeting the requirements specified both in the Administrative Procedure Code and the Rail Transport Act were filed with the Office in 2011 and handled in administrative proceedings.

As far as information campaigns conducted by the Office are concerned, the extension of the Office's official web portal ([www.pasazer.utk.gov.pl](http://www.pasazer.utk.gov.pl)) should be noted, the said portal showing issues relating to rail transport passengers' rights. Also the broadly understood educational and information activities were on. To develop passengers' awareness, the Office of Rail Transportation was carrying on the direct information campaign (Rail Passenger Day), launched a hotline and a mailbox for passengers to report their rail journey- related irregularities.

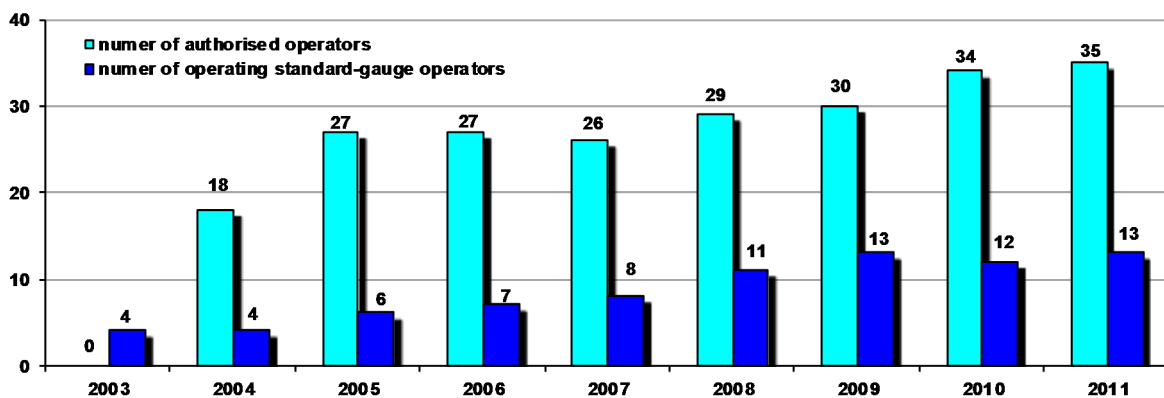
Apart from standard activities within the framework of competence in respect of complying with rights vested in disabled persons and persons with reduced mobility, from among many actions, the President of the Office of Rail Transportation appointed the Team for Disabled Persons. The Team is an advising body, which may also take autonomous actions. In 2011, its works focused on issues concerning enforcement of disabled persons' rights, of which on due check in of passengers entitled to reduced fares and on making possible for disabled persons taking seats designated for them or taking a seat 'for mothers with child' in a compartment (the President of the Office issued instructions in this respect). Within the framework of Team's works, there were analyzed architectural solutions in regard of adjusting platforms and stations to disabled persons' needs.

# Licensing the railway passenger transport



In 2011, pursuant to the provisions of the Article 10 paragraph 1 point 2 of the Railway Transport Act, the President of UTK granted three licences for performing the passenger railway transport. In the recent years the number of licences issued by the President of UTK has not considerably changed. Since 2006 it has not exceeded 5 per annum. At the end of 2011, the valid licence (excluding the suspended ones) authorising to perform the activity was held by 35 railway undertakings, including 13 licences held by the narrow gauge railway undertakings. From the beginning of the Office of Rail Transportation (UTK) establishment, the President of UTK has granted 40 licences authorising to perform the passenger transport services. The timeline between the beginning of the second half of 2003 and the end of February 2004 was the transition period, when the legal status allowed the railway undertakings to perform transport on the basis of concessions granted by the minister competent for transport or by the licence granted by the Office of Rail Transportation. Taking the above into account, the number of railway undertakings performing the transport services in 2003 was higher from the number of authorised railway undertakings acting on the basis of the licence.

**Number of licenced railway undertakings authorised to perform transport and actually acting on the railway market in the years 2003-2011**



*/Source: Prepared by UTK/*



# Freight transport



# Competition between transport modes on the European freight transport markets

Data presented in this chapter, concerning particular modes of transport in the European Union countries comes mainly from the year 2010. It should be indicated, that data including the full reporting period is published by "Eurostat" European Statistical Office till 18 months since the full calendar year finishes.

Similarly to the passenger sector, the European freight transport recorded systematic growth of transport to the year 2007. In terms of the transport performance in the analyzed period of time, i.e. since 1995, it was at the level of 1-5% per annum. The first declines were noted in the second half of 2008, when the general volume of transport diminished by around 2%. In 2009 there was a further, this time considerable decrease of freight transport which was a consequence of the worldwide economic crisis, and, thus, the decrease of trade exchange between the countries. In general, in the year 2009, the transport performance diminished by 11.1% with the result at the level of 3,639 billion tonne-kilometres. The tendency reversed in 2010, the level of

transport performance increased by 5.3% but still the record level dated in 2007 was not reached. In general, in 2010, 3,832 billion tonne-kilometres were performed.

In the years 1995-2010, the largest growth of the transport performance, by 467 billion tonnes-kilometres, was noted by road transport (which constituted the dynamics at the level of 36.2%). The next places, in terms of the transport volume increase, were taken by: maritime transport (269 billion tonne-kilometres more than in 1995) and inland water transport (25 billion tonne-kilometres).

Taking into consideration the dynamics of transport in the years 1995-2010, the largest dynamics was reached by air transport (around 50%). It should be indicated that the volume of freight transport in the air traffic is still insignificant. In 2010 it reached merely 3 billion tonne-kilometres which constituted nearly 0.1% of the transport market. In the same period, the lowest growth dynamics was noted by the railway transport in relation to 1995, by only 1%.

## Freight transport performance in all EU countries (billion tonne-kilometres)

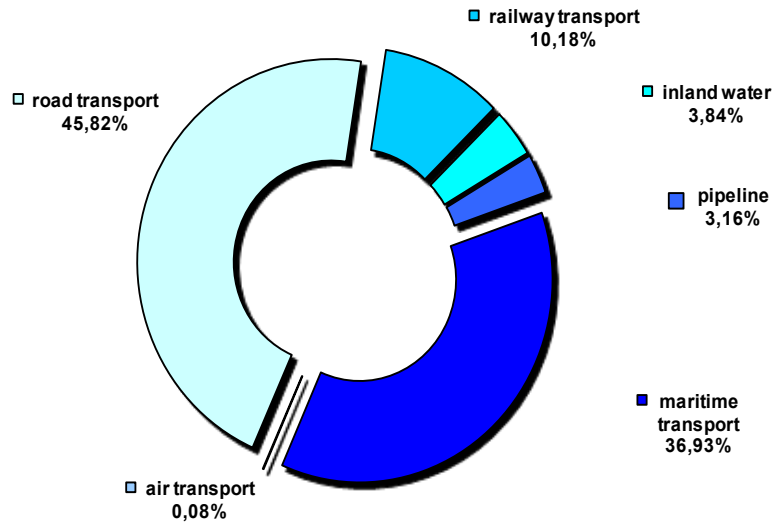
year	road transport	railway transport	inland water	pipeline transport	maritime transport	air transport	together
1995	1 289	386	122	115	1 146	2,0	3 060,0
1996	1 303	392	120	119	1 160	2,1	3 096,1
1997	1 352	410	128	118	1 193	2,2	3 203,2
1998	1 414	393	131	125	1 232	2,3	3 297,3
1999	1 470	384	129	124	1 268	2,3	3 377,3
2000	1 519	404	134	127	1 314	2,5	3 500,5
2001	1 556	386	133	133	1 334	2,5	3 544,5
2002	1 606	384	133	128	1 355	2,4	3 608,4
2003	1 625	392	124	130	1 378	2,4	3 651,4
2004	1 742	417	137	132	1 427	2,5	3 857,5
2005	1 794	413	139	136	1 461	2,6	3 945,6
2006	1 848	435	138	136	1 505	2,7	4 064,7
2007	1 914	448	145	130	1 532	2,8	4 171,8
2008	1 881	440	145	125	1 498	2,7	4 091,7
2009	1 690	361	130	119	1 336	2,5	3 638,5
2010	1 756	390	147	121	1 415	3,0	3 832,0

/Source: Prepared by UTK on the basis of EC data/

There is still a domination of the road transport, which in the years 1995-210 increased by 36.2%. It proves the tendency that the customers choose the road transport as more reliable, more foreseeable and with the possibility to transport the goods on time in the door-to-door system.

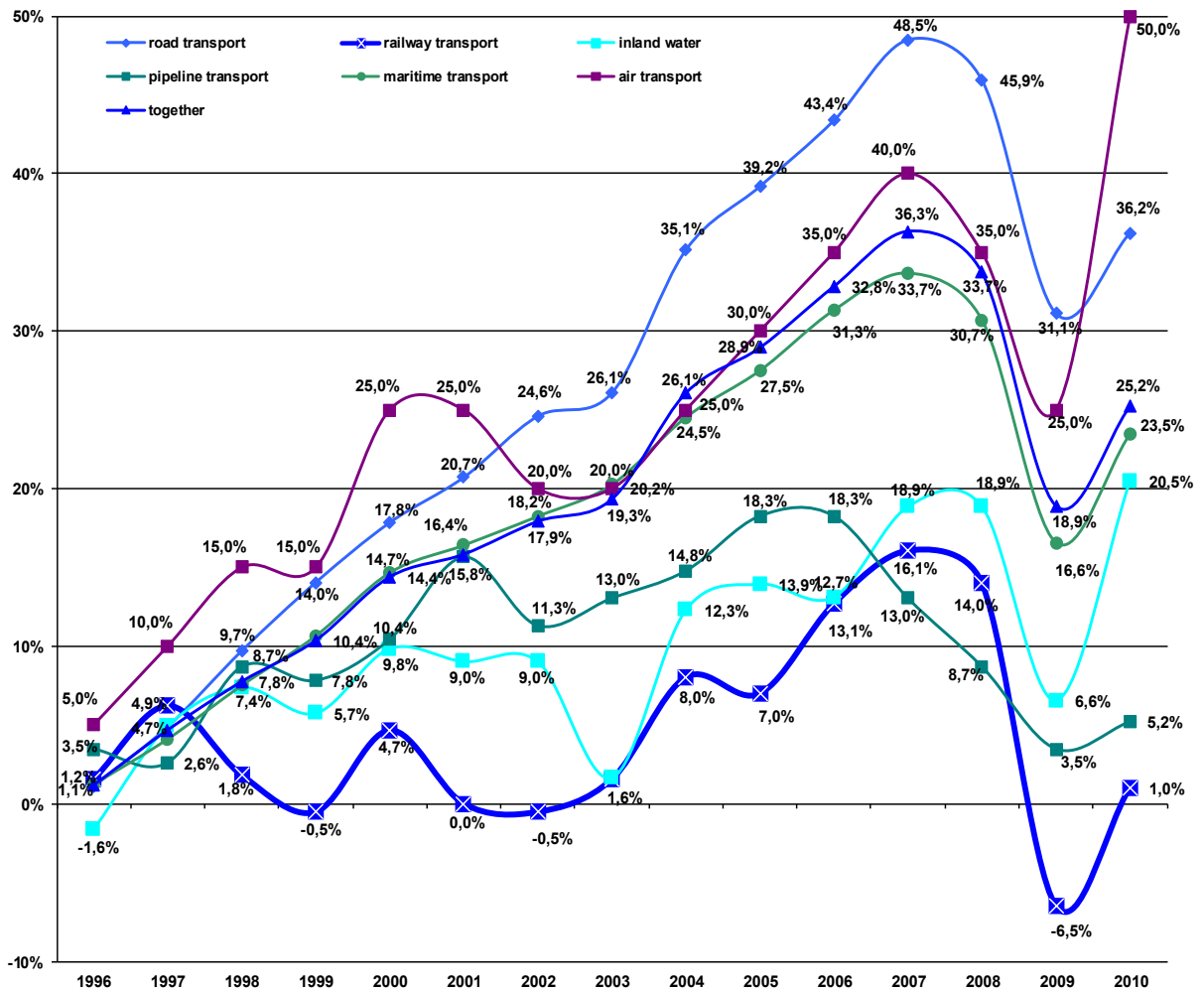
The positive tendency was observed in 2010, when for the first time for a few years the dynamics (considering year to year) of the volume of railway transport performance in terms of tkm (growth by 8%) was higher from the road transport (3.9%). In 2010, similarly to the previous years, the largest share in the transport performance (tkm) belonged to the road transport (45.8%), by 0.6% less than in the previous year. As for the volume, the second share in the market of transport performance (tkm) belonged to maritime transport – 36.9% (growth by 0.2%). In the analogous period the railway transport share increased by 0.3% and again exceeded the level of 10%.

### Share of particular modes of transport in the UE in 2010



/Source: Prepared by UTK on the basis of EC data/

### Dynamics of transport by particular modes of transport – EU in the years 1996-2010 (1995 = 0%)



/Source: Prepared by UTK on the basis of EC data/

# Railway freight transport in Europe

In 2011, in all countries of the European Union, 1.6 billion tonnes of goods were transported by rail altogether, growth by 1.8% (29 million tonnes) comparing to 2010. The transport performance was at the level of 400 billion tonne-kilometres, 2.5% more than the year before (10 billion tonne-kilometres). The average distance travelled by 1 tonne was equal to 249.6 km, by 1.8 km more than in 2010. After considerable decrease which took place in 2009, by 18.5% in terms of mass and 17.9% in terms of tkm, in 2010-2011 the slight growth of the transport volume was noticed, which amounted to 10.2% in 2010 and 10.8% in 2011 altogether. It needs to be underlined that still the freight market did not catch up on the losses from the record year 2007, when over 1.8 billion tonnes of goods were transported performing nearly 450 billion tonne-kilometres.

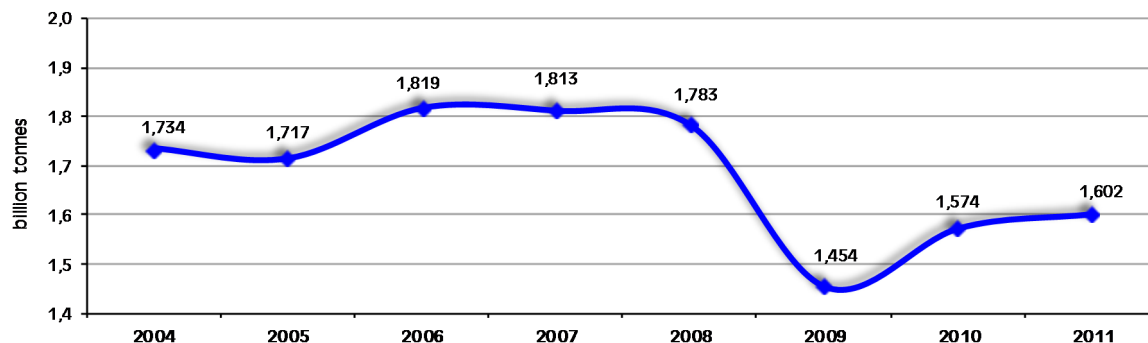
In the year 2010, 685 railway undertakings were authorised to perform railway transport on the basis of the licences in all European Union countries, by 5% more than in the year 2009. In Poland there were 71 licenced railway undertakings authorised to perform the transport (in 2011 their number declined to 69), out of which the transport performance was delivered by 40 railway un-

dertakings in 2010. Their number increased to 53 in the year 2010.

The Polish freight railway market, as in the case of the passenger sector, should be classified to the one of the most liberalized in the European Union countries. The share of the new railway undertakings which do not originate from the PKP Group, measured by transport performance (tkm), amounted to around 30% at the end of 2010. Taking into consideration the transported mass it was even higher and exceeded 45%. Higher share of the railway undertakings which do not originate from national railway operators belonged only to the Netherlands (33%), Romania (41%), Estonia (43%) and Great Britain (51%).

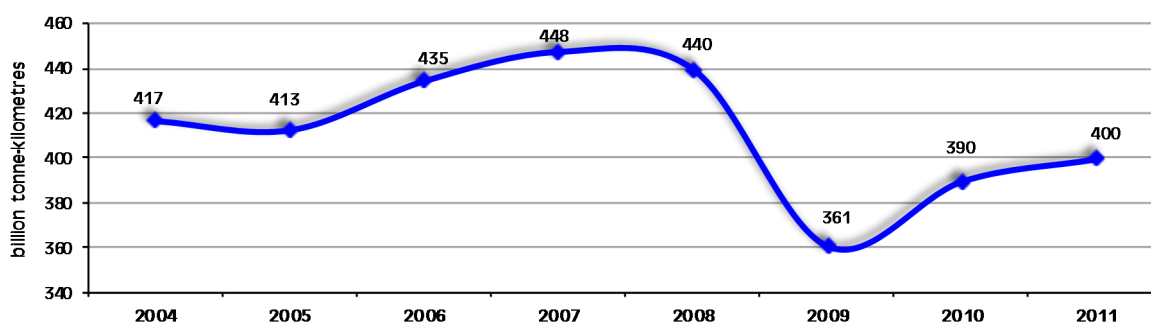
The transport performance dynamics delivered by the Polish railway undertakings almost ideally matched the transport tendencies on the European markets. It needs to be indicated that since 2001 the dynamics in Poland was negative, with a few percentage positive level in the whole European Union. In 2010, there was a slight break of this tendency. The growth of transport amounted to 12% in relation to the previous year, with the simultaneous, total 8% growth in the European countries.

## Weight of goods in the railway transport in the EU countries in the years 2004-2011



/Source: Prepared by UTK on the basis of EC data/

## Transport performance in the freight railway transport in the EU countries in the years 2004-2011



/Source: Prepared by UTK on the basis of EC data/





In 2011 there was the dynamics balance. In relation to the year 2000, the volume of transport decreased by 0.9% both in Poland as well as in the entire Europe.

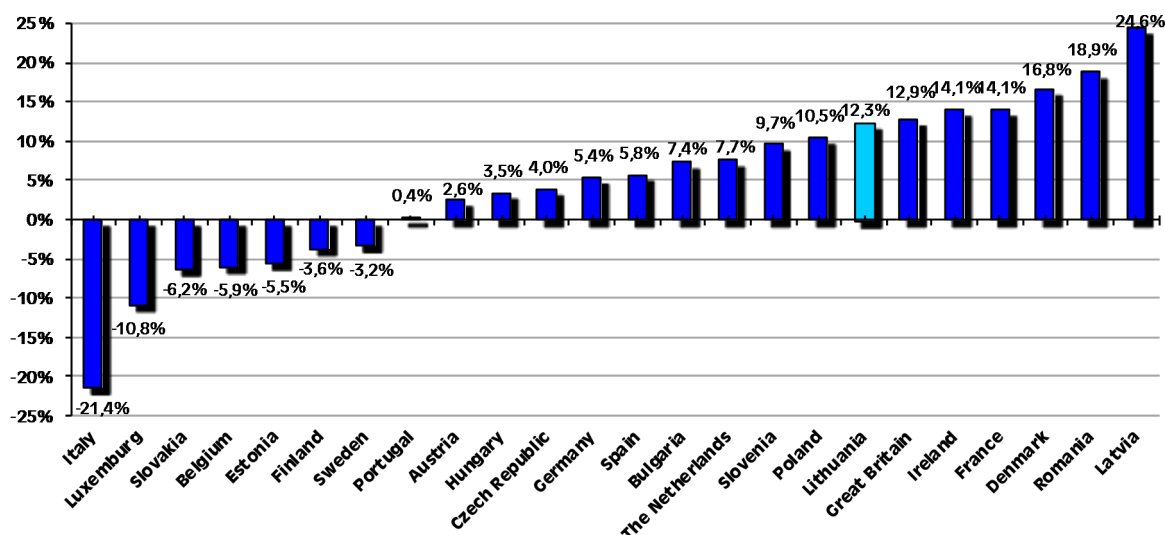
Similarly to the year 2010, most of the European countries recorded growth of freight transport. Measuring by the transport performance, it classified Poland in the upper rate of the growth dynamics. At the end of the year, it amounted to 10.5%, by over 5% more than e.g. in Germany. The similar result was noted in such countries as: Slovenia (9.7%), Lithuania (12.3%), Great Britain (12.9%), Ireland and France (14.1%). Among all the countries, the largest growth of dynamics was noted by: Denmark (16.8%), Romania (18.9%) and Latvia (24.6%). It should be pointed out that those are the countries of definitely lower level of transport, not exceeding 60 million tonnes per year.

Taking into consideration the transported freight weight, the largest share belonged to Germany, which possessed 23.4% of the European market in total. In 2011 over 375 million tonnes of goods were transported in this country, by 5.4% more than the year before (growth by

19.3 million tonnes). The second country, as for the volume of transported weight, remains Poland, with the total share in the EU market equal to 15.5% (in 2011 249,3 million tonnes were transported). In terms of the transport performance, Germany remains a definite leader, with the performance of 113.1 billion tonne-kilometres in total, which constituted 28.3% of the European market. The Poland's share comparing to the remaining countries was also high and amounted to 13.4% at the end of 2011. The remaining countries did not exceed the level of 10% and the largest level belonged to France – 8.5% and Great Britain – 5.2%.

Similarly to the previous years, also in 2011 the longest average distance travelled by a tonne of goods was recorded in Spain and France, 390 and 370 kilometres correspondingly. In Germany, the country of the largest volume of transport, the average distance travelled by goods by rail was equal to 302 kilometres. In Poland, despite the big area of the country, this indicator is relatively low, it was equal to 216 kilometres at the end of 2011.

#### Dynamics of the transport performance by the freight railway undertakings in the years 2010-2011



/Source: Prepared by UTK on the basis of EC data/

# Competition between the transport modes on the Polish market of freight railway transport

In 2011, 1.9 billion tonnes of goods were transported by all modes of transport, including 249 million by railway transport. Still, road transport is dominant which transported nearly 1.6 billion tonnes of goods. At the end of 2011, its share in the weight of transported goods was equal to 83.8%, by 0.1% less than in the previous year. The railway share increased slightly by 0.4% to the level of 13.1% due to the dynamic growth of transport of aggregate in 2011. The weight of resources transported by pipelines, similarly to the previous years, shaped on the similar level. In 2011 its volume was equal to 54.5 million tonnes. The share of this mode amounted to 2.9%. The inland water transport share and air transport of the freight mass was marginal. At the end of previous year, it amounted to nearly 0.3% in total. In the recent years, the characteristic phenomenon was further division of the freight transport market between the modes, showing

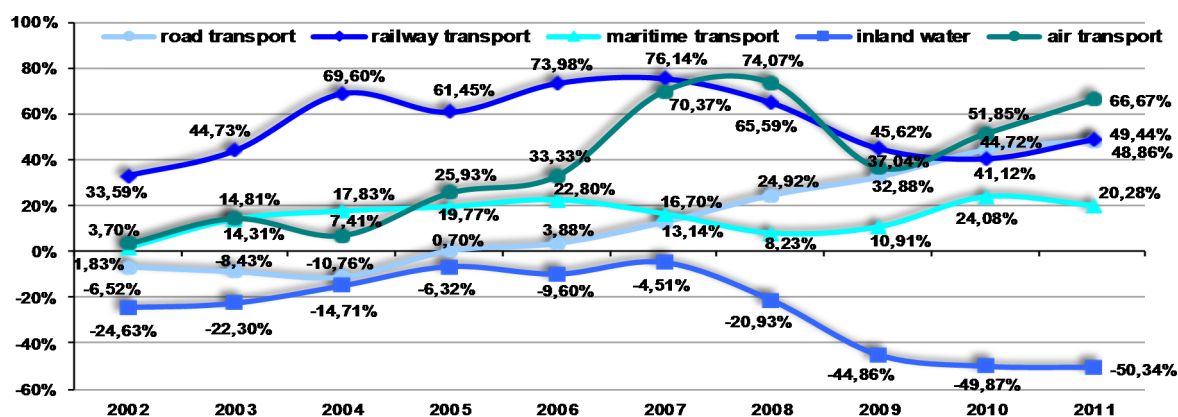
the significant decrease of the railway transport role and increase of the car sector importance. This tendency has at its source not only changes in the economy structure but also fast transformation of the car transport sector. Intensification of the competition caused that the car enterprises offer was constantly improved with the simultaneous maintaining the prices on the low level. Due to a high barrier of entering to and functioning on the market, including high disproportionate costs of the infrastructure access, the railway transport noted the dynamic decrease of shares. Only in the years 2004-2011, by nearly 9% (according to the weight). In 2011 there was a slight reduction of the freight transport in terms of tkm measured by transport performance. It meant the decrease by 610 million tonne-kilometres (0.2%). The best result was reached by the car transport, which admittedly exceeded the threshold of 75% (of the market share) in 2010 but in

## Weight of transported goods in Poland in the years 2001-2011

transport mode	years										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	mln tons										
total	1 294,75	1 279,16	1 283,24	1 302,09	1 413,06	1 469,12	1 569,85	1 672,96	1 723,79	1 848,70	1 905,19
road	1 072,30	1 002,37	981,96	956,94	1 079,76	1 113,88	1 213,25	1 339,47	1 424,88	1 551,84	1 596,20
rail	166,86	222,90	241,50	283,00	269,40	290,30	293,90	276,30	242,98	235,47	249,35
pipeline	45,30	46,13	51,78	53,38	54,26	55,63	52,87	49,03	50,24	56,21	54,50
inland waterways	10,26	7,73	7,97	8,75	9,61	9,27	9,79	8,11	5,66	5,14	5,10
air	0,03	0,03	0,03	0,03	0,03	0,04	0,05	0,05	0,04	0,04	0,05

/Source: Prepared by UTK on the basis of CSO [Central Statistical Office] data/

## Dynamics of particular modes of transport in the years 2002-2011 (2001 = 0%)



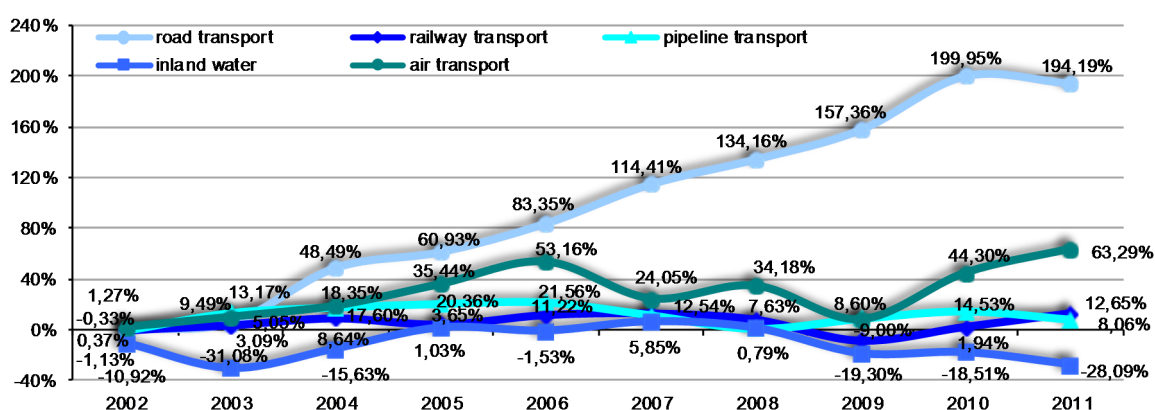
/Source: Prepared by UTK on the basis of CSO [Central Statistical Office] data/

## Transport performance in the freight transport in Poland in the years 2001-2011

transport mode	years										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	in mln tkm										
total	144 752	144 495	152 381	188 500	196 176	216 713	238 399	248 420	259 098	297 313	296 703
road	74 403	74 679	78 160	110 481	119 740	136 416	159 527	174 223	191 484	223 170	218 900
rail	47 913	47 756	49 392	52 053	49 664	53 291	53 923	51 570	43 601	48 842	53 974
pipeline	21 093	20 854	23 871	24 806	25 388	25 640	23 513	21 247	22 908	24 157	22 800
Inland waterway	1 264	1 126	871	1 066	1 277	1 245	1 338	1 274	1 020	1 030	900
air	79	80	87	94	107	121	98	106	85	114	129

/Source: Prepared by UTK on the basis of CSO (Central Statistical Office)/ data/

## Dynamics of the transport performance of particular transport modes in the years 2002-2011 (2001 = 0%)



/Source: Prepared by UTK on the basis of CSO (Central Statistical Office)/data/

2011 noted a 2% decrease. The railway transport share in terms of tkm was equal to 18.2%, by 1.8% more in comparison to the year 2010.

In 2011, the largest grow of the performance was noted by railway transport. Over 5 billion tonne-kilometres more were performed than in 2010. The upward trend was also reflected in air transport, equal to 13.2%. It should be indicated that the volume of air transport performance was insignificant and amounted only to 129 million tonne-kilometres. In the same period, 218.9 billion tonne-kilometres were performed by car transport, by 4.3 billion less than in the previous year. In the pipeline transport, due to the long distances of the resource transport, there was performance at the level of 22.8 billion (5.6% drop) which constituted the share at the level of 7.7% (decrease by 0.4%). The inland water transport and air transport share was slight and amounted to 0.3% and 0.04% correspondingly. In the year 2011, in comparison to the previous year, average distance travelled by one tonne of goods in Poland decreased by 5.1 km and was equal to 155.7 km. Due to the specific nature of transport the largest average distance was noted by air transport. In the car transport, after the significant increase of

average distance of transport in the years 2001-2010, from 69.4 to 144 km, a slight reduction of this indicator was observed in 2011, which dropped to the level of 137 kilometres. In this period, in the railway transport, the average distance of transport amounted to 216.5 km, by 9 more than the year before. The high indicator was reflected in the pipeline transport – 418 km at the end of 2011.

Numerous economic transformations had influence on the change of market roles of particular transport modes. Similarly as in the remaining countries of European Union, also in Poland, in the years 2001-2011, there was a considerable drop of importance of freight railway transport for the benefit of road transport, the advantage of which is still the price, time and possibility to perform "door to door" transport without changing the mean of transport, which is a key element while choosing the type of transport by a customer. In the transport structure, there is a dynamic growth of highly processed products, in particular in the road transport. In Poland, there is still lack of coherent State policy and instruments of legal and economic support as far as development of multimodal transport is concerned.

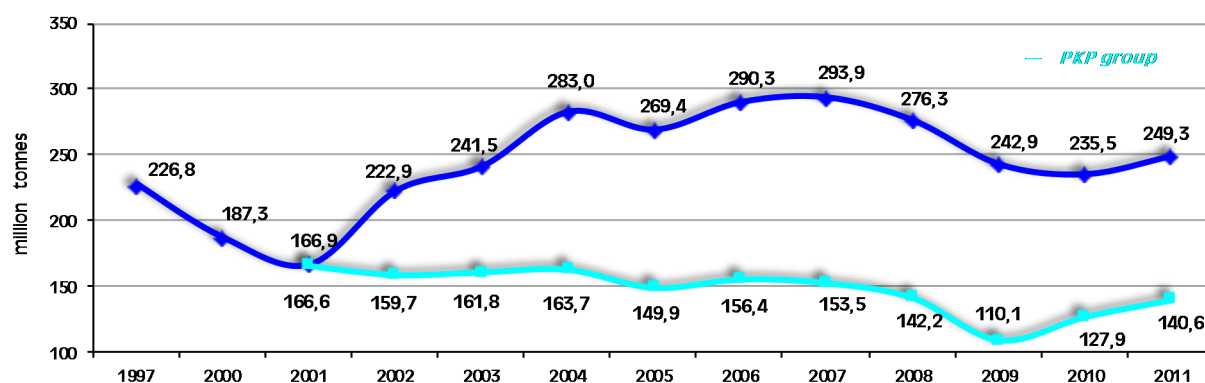
## Polish freight railway undertakings

In 2011, 53 licenced entrepreneurs performed freight railway transport, including 52 railway undertakings on the standard gauge lines. Additionally, transport performance was declared by four narrow gauge railway undertakings. In 2011, the licensed transport was performed by four PKP Group companies - PKP Cargo S.A., PKP LHS Sp. z o.o. (on the organizationally separated broad gauge line), PKP Energetyka Sp. z o.o. (transport exclusively on the own needs of the energy infrastructure in terms of maintenance and repairs), PKP Cargo Service Sp. z o.o., eight companies of CTL Group - CTL LOGISTICS Sp. z o.o. CTL Rail Sp. z o.o., CTL Train Sp. z o.o., X-TRAIN Sp. z o.o., CTL Express Sp. z o.o., CTL Reggio Sp. z o.o., CTL Kolzap Sp. z o.o., CTL Kargo Sp. z o.o., three companies of DB Schenker Group - DB Schenker Rail Polska S.A., DB Schenker Rail SPEDKOL Sp. z o.o., DB Schenker Rail COALTRAN Sp. z o.o., thirty freight railway undertakings - PUK KOLPREM Sp. z o.o., POL-MIEDŹ TRANS Sp. z o.o., LOTOS KOLEJ Sp. z o.o., TRANSODA Sp. z o.o., KP "KOTLARNIA" S.A., ZIK Sandomierz S.J., RAIL POLSKA Sp. z o.o., KOLEJ BAŁTYCKA S.A., ORLEN KOL-TRANS Sp. z o.o., GATX Rail Poland Sp. z o.o., EURONAF

TRZEBINIA Sp. z o.o., Lubelski Węgiel Bogdanka S.A., PTK Kołtar Tarnów Sp. z o.o., STK S.A., MAJKOLTRANS Sp. z o.o., CEMET S.A., Freightliner PL Sp. z o.o., Hagans Logistics Sp. z o.o., S&K Train Transport Sp. z o.o., ExTrail Sp. z o.o., Transchem Sp. z o.o., ITL Polska Sp. z o.o., Zakłady Naprawcze Lokomotyw Elektrycznych S.A., Dolnośląskie Linie Autobusowe Sp. z o.o., PHU Lokomotiv Bronisław Plata, Zakłady Produkcyjno - Naprawcze Taboru Maszyn i Urządzeń M.Dybowski Sp.J., Wiskol W. Sołtys, J. Sołtys S.J., Philip Sp. z o.o., Tabor Szynowy Opole S.A., Zakład Przewozów i Spedycji SPEDKOKS Sp. z o.o. and eight companies performing only the transport directly connected with construction, maintenance and modernization of railway infrastructure: DOLKOM Sp. z o.o., Przedsiębiorstwo Napraw Infrastruktury Warszawa Sp. z o.o., Pomorskie Przedsiębiorstwo Mechaniczno-Torowe Sp. z o.o., PNIUIK in Cracow Sp. z o.o., PRKił Wrocław S.A., PRK KRAKÓW S.A., TORPOL Sp. z o.o., Zakład Robót Komunikacyjnych - DOM in Poznań Sp. z o.o.

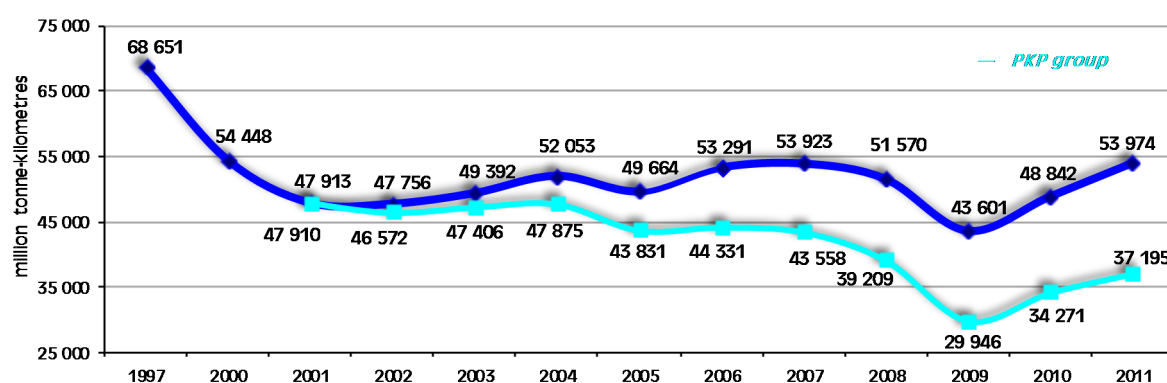
In 2011, the railway undertakings transported 249.3 million tonnes of goods performing 53.974 million tonne-

### Weight in the freight railway transport in the years 1997-2011\*



/Source: Prepared by UTK/

### Transport performance in the freight railway transport in the years 1997-2011\*



/Source: Prepared by UTK/

\*To the year 2009, the transport statistics included part of the maneuver transport performed by licenced railway undertakings

kilometres. Comparing to the year 2010, it constituted the increase of transported freight weight by 5.89% and transport performance in tonne-kilometres by 10.51%.

Growth of transport in 2011 was caused mainly by increased need for transport of materials used in infrastructural investments, including groups such as the goods of the aggregate, sand and gravel group. In this group there were 47.8 million tonnes transported and transport performance made at the level of 11,868 million tonne-kilometres, accordingly by 48.2% and 51.2% more than in 2010.

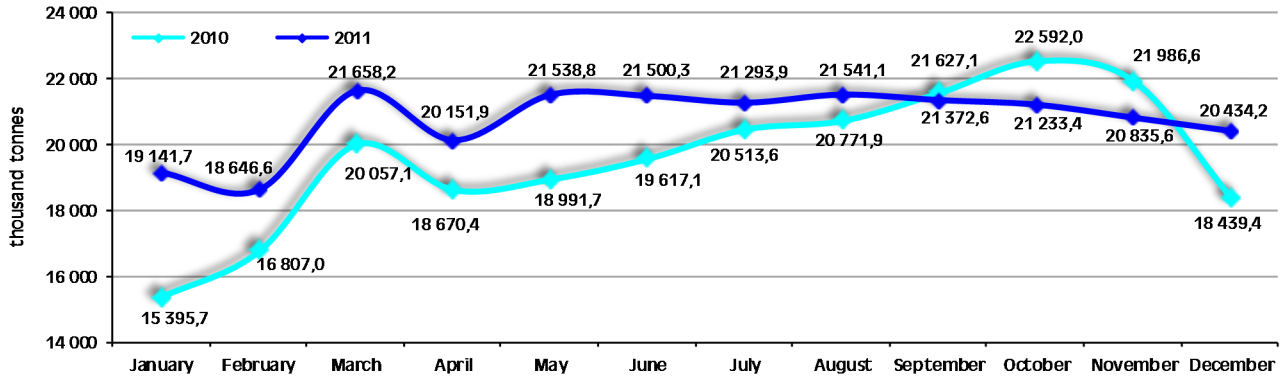
Further process of ownership changes was continued on the freight transport market. The process of taking over the PCC Rail by the German railway concern Deutsche Bahn, which commenced in 2009, was completed. In January 2011, DB Schenker Rail Polska took over and consolidated next licenced enterprises: DB Schenker Rail Zabrze, DB Schenker Rail Rybnik and Nadwiślański Zakład Transportu Kolejowego in Wola. In November 2011 there was a merger (through taking over) of DB Schenker Rail Coaltran company with the taking over entity DB Schenker Rail Polska.

Similarly to the preceding years, the Polish railway transport based on the bulk transport, mainly of raw

material. In 2011 the hard coal transport prevailed, the market share of which amounted to 39.8% according to the transported freight weight and 29.7% according to the performance. Among the most often transported goods there were also metal ores and remaining mining and quarrying products (including iron ores, aggregate, sand, gravel and clay), 29.8% of weight and 30.2% of performance and the products of crude oil refining – accordingly: 6.1% and 8.7%. In the year 2011, there was further dynamic growth of intermodal railway transport. 488.9 thousand unit loads were transported of the total weight of 5.9 mln tonnes, accordingly 41.9% and 34.1% more than in 2010. While delivering this service, railway companies performed 2.4 billion tonne-kilometres which constituted the increase by 29.6%. At the end of 2011, share of intermodal transport, measuring by weight of transported units, amounted to 2.37% of general volume of transport of goods by rail in Poland (increase of share by 0.5%). In terms of the value of transport performance, the intermodal transport share exceeded 4.5% (in relation to 3.8% in the year 2010).

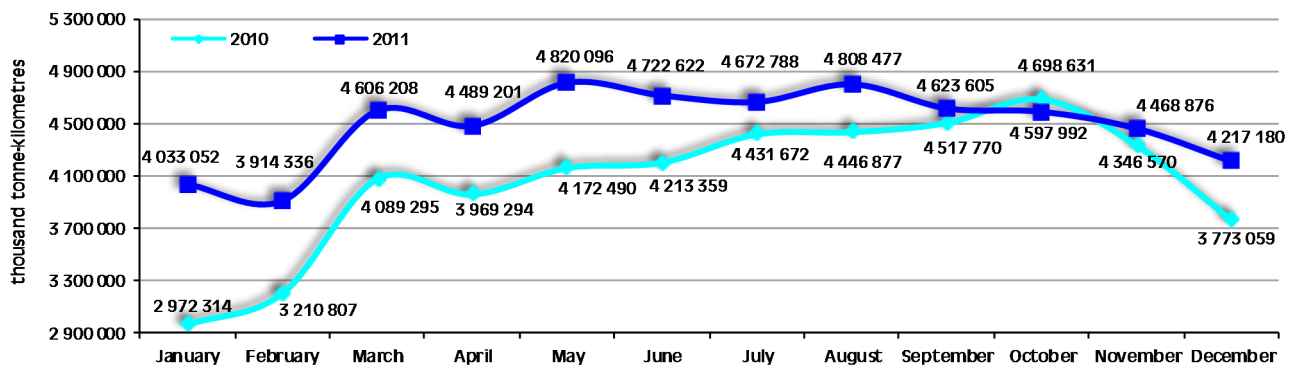
Upon analyzing the data concerning transport performance in particular months, it should be noticed that after significant growth of transport in the period of

#### Weight of goods in particular months of 2010 and 2011



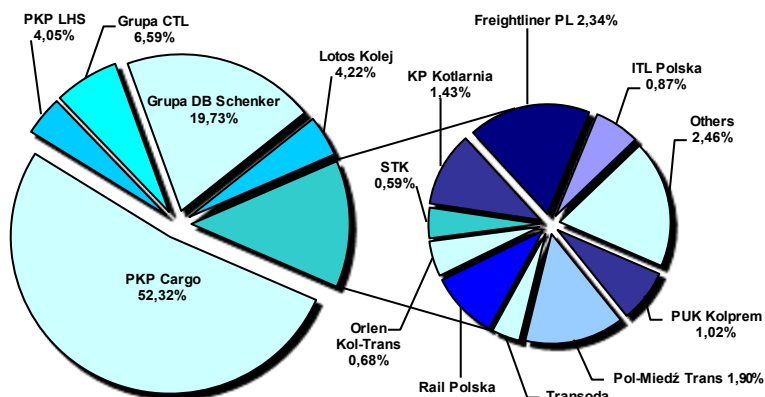
/Source: Prepared by UTK/

#### Transport performance in particular months of 2010 and 2011



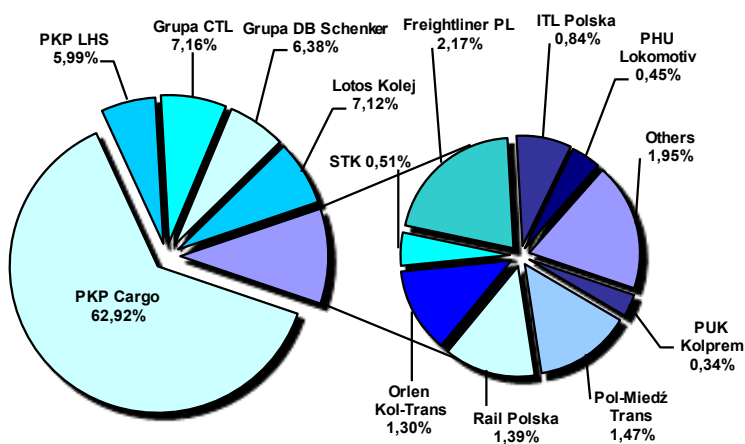
/Source: Prepared by UTK/

### Railway undertakings' share in the market in terms of the freight weight in 2011



/Source: Prepared by UTK/

### Railway undertakings' share in the market in terms of the transport performance in 2011



/Source: Prepared by UTK/

January – August 2010/2011, there was a reverse of the tendency. In the months September – November there was a considerable fall of transported freight weight. In October and November, in relation to the previous year, it was at the level of around 6%.

In December 2011, the transport volume exceeded the one from 2010, nearly 2 million tonnes more were transported (10.8%). In 2011 the largest weight was transported by the railway undertakings in March – around 21.6 million tonnes but around 4.3% less than in October 2010. Definitely the lowest level of transport, both in terms of the weight as well as transport performance, was recorded at the beginning of 2011 (January and February). The weight of goods did not exceed 20 million tonnes and the transport performance 4.1 billion tonne-kilometres. Railway undertakings performed freight transport in the amount of total 79.5 million train-kilometres on the infrastructure managers network, by 8.2% more than in the previous year. The largest increase

of operation performance was noted by PKP Group companies, 3.5 million train-kilometres more than in 2010 in total (growth by 6.6%). Taking into consideration the remaining railway undertakings, the largest increase of the operation performance, similar to the previous year, was recorded by the company Lotos Kolej. The total length of performed routes increased by around 17.5% (5.4 million of performed train-kilometres in 2011). The average distance travelled by one tonne of goods was depending on the season of the year from 206 km in December to 223 km in April, May and August. It should be noticed that in all months of the year, the average distance of transport was higher than in analogous periods of 2010. At the end of 2011 the average distance of transport was equal to 216.5 km, by 9 km more than in the previous year.

In 2011, PKP Group companies still prevailed on the Polish market, which transported 140.6 million tonnes of goods performing transport at the level of 37.195 mil-



lion tonne-kilometres. In comparison to 2010, the companies of the Group recorded growth of transport, by 9.9% and 8.5% accordingly. At the end of 2011 their share in the transport market was correspondingly equal to 56.4% and 68.9%. Among the remaining railway undertakings, the biggest share in the market in terms of transported weight belonged to DB Schenker Group companies – 19.7% of the market, as for the transport performance the companies of CTL Group and Lotos Kolej, 7.16% and 7.12% accordingly.

Most of railway undertakings, performing railway transport, recorded increase of the volume of freight transport in 2011. PKP Cargo company, after the period of decline in the market in the years 2003-2009, recorded both the increase of volume of transported weight in 2010-2011 as well as the share in railway market. At the end of 2011, it increased its share in relation to the previous year by 1.6% (according to the transported weight). Dynamic growth of transport was noted by PKP group railway undertaking, performing transport on the organizationally separated wide gauge line, PKP LHS. In comparison to 2010, growth of transport measured by transported weight and transport performance amounted to around 18%. The company increased its share in the market to the level of 4.1% (according to the weight) and 6% (according to transport performance).

Further dynamic increase of transport was recorded by the companies performing transport of goods of the specified market sector or related by capital with the production firms, including the Lotos Kolej company – the main player on the market of fuel transport and crude oil refining products. The company transported 10.5 million tonnes of goods (growth by 24.1%), performing

transport at the level of 3.8 billion tonne-kilometres (growth by 12.5%). At the end of 2011 it obtained 4.2% share in the market of the transported weight and 7.12% measured by the net performed transport on the infrastructure network (growth by 0.6% and 0.12% accordingly). Similar result was noted by the Pol-Miedź Trans company, mainly focused on transport of metal ores (iron) – increasing the volume of transport in terms of weight by 3.5% and in terms of performed transport by 13%.

In 2011 the freight railway undertakings delivered gross transport performance (which includes the own weight of wagons included to the trains composition, locomotive's own weight and the weight of goods loaded onto wagons) on the network of infrastructure managers equal to 108.5 billion of gross-tonne-kilometres. In comparison to 2010 the increase of transport performance amounted to 9.2% (9.1 billion of gross tonne-kilometres). The PKP Group share in the delivered transport performance on the infrastructure managers network was equal to 73.1 % (by 0.4% more than in 2010). The performance of wagon rolling stock amounted to 2.294 billion of wagon-kilometres, 10.4% more than in 2010. The rolling stock performance is meant by the sum of mileages of particular wagons in kilometres both loaded as well as empty in all activated trains of the railway undertakings. The average number of wagons per 1 activated train amounted to 28.85 in 2011 towards 28.3 in the preceding year. It should be noted that this value has not significantly changed in recent years and was at the similar level of 28 pieces. In 2011, there were 756.7 thousand train paths activated. In comparison to 2010 it constituted the growth of 3.1%. Additionally, the railway undertakings activated 313.3 thousand railway vehicles in bulk. On average, around



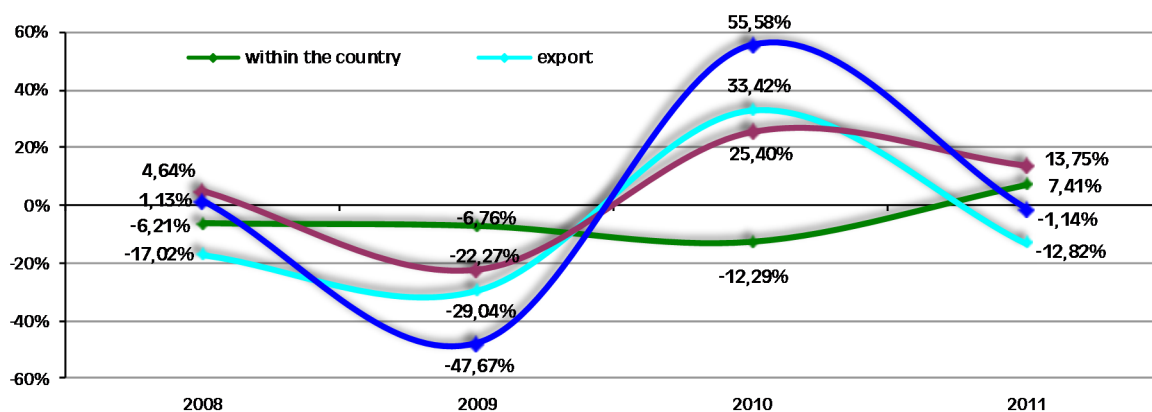


2,073 freight trains were activated within twenty-four hours. To compare, the average number of trains run each day amounted to 2,011 items in the preceding year.

The transport inside the country is the least susceptible to the economic factors. Mainly due to large demand for raw materials, which is generated by the Polish energy industry and numerous infrastructural investments. Due to the above, transport inside the country was at the similar, very high level for a couple of years. Variations on the domestic market, taking into consideration year to year, did not exceed more than ten percent. It should be noted that in 2011 these kinds of transport recorded a dynamic growth, measured with the transport performance by around 21.4%. In the same period, the international transport decreased by 3.9%, including export by around 20%. Analyzing the data from

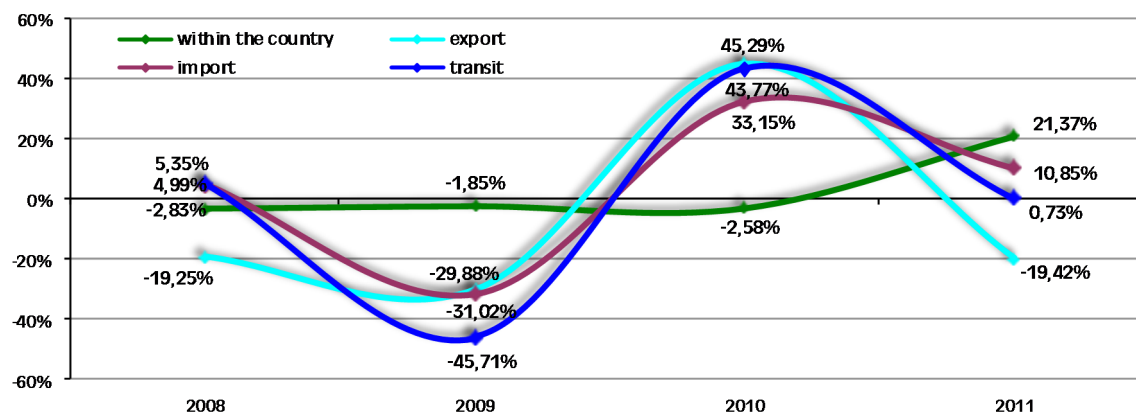
2011 the attention should be paid to the transport outcome in terms of import. In relation to the preceding year, the increase of this kind of transport amounted to 13.8% in terms of weight, and 10.9% in terms of performance. Over 41 million tonnes were transported, by 5 million more than in 2010. The share of import in the railway transport market in international transport amounted to nearly 60%. In 2011, despite the decrease of international transport importance, general volume of railway transport increased mainly, due to high demand for aggregate and sand. In the nearest years we should anticipate the fall in the demand for transport of those freight groups which in connection with further decrease of international transport importance may forecast weakening of the whole transport market, minimum of a few percent per annum.

**Dynamics of transport (in terms of weight) in particular communications (2007 = 0%)**



*/Source: Prepared by UTK/*

**Dynamics of transport (in terms of performance) in particular communications (2007 = 0%)**



*/Source: Prepared by UTK/*



# Polish freight railway market structure

The Polish railway transport is still based on bulk transport, mainly of raw material. In 2011, railway transport for hard coal, metal ores, mining and quarrying products were 70.2% of the total weight volume and 60.9% of the transport performance in terms of tkm achieved by railway undertakings. Comparing to 2010, the share of these goods was higher, with 4.9% and 1.8% accordingly.

The largest share in the transported weight market belonged to the railway transport for hard coal: 39.8% (99.2 million tonnes) towards 44.6% in 2010 (share decreased with 4.8%). It should be noted that for a couple of years, the volume of railway transport for hard coal has fallen dynamically. In 2006-2011 it decreased by approximately 34%, which was 50.6 million tonnes. From among many reasons, this is caused by change in the structure of demand for energy sources, including the growth of significance of lignite which is the fuel with relatively low production costs, which subsequently translates into lower costs of energy generation. Originally railway transport is not taken into account at railway transport for lignite. This type of raw material is in use on local markets, while power plants consuming it are usually located close to deposits, where lignite is conveyed by belt conveyors or industrial railway.

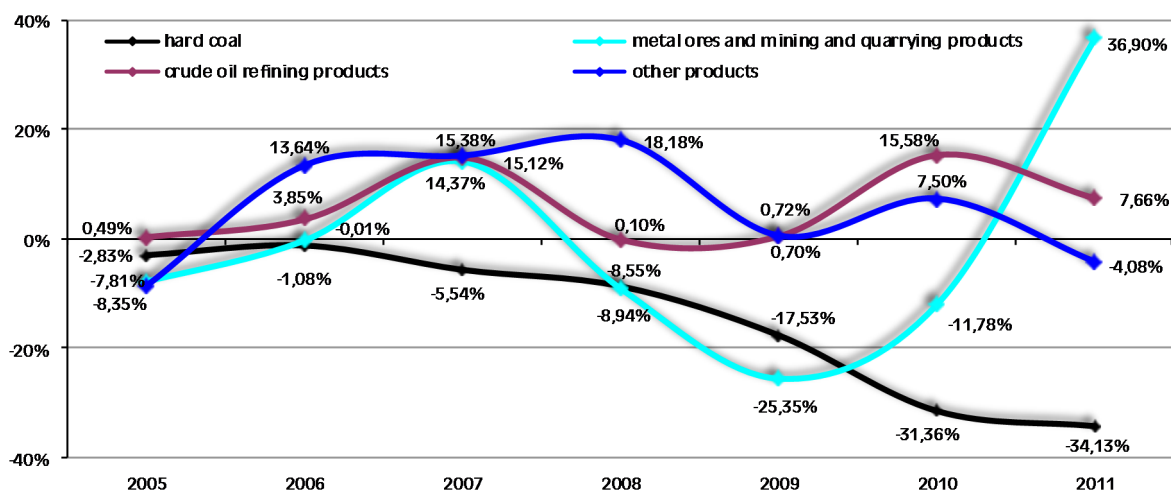
In 2011, the largest growth in the object structure concerned railway transport of metal ore, mining and quarrying products. Thanks to numerous investments in infrastructure and great demand, from among many things, for aggregates, sand and gravel, railway transport in this group of goods increased with approx. 50% up to

the level of 74.2 million t. Comparing to 2010, the following railway transport had the growing dynamics measured with the transported load weight: transport equipment – 18.5%, recyclable and municipal waste – 12.7%, metal and metal finished products – 6%, non-metal mineral products – 5.9%, agricultural products – 5.8%.

According to the index of transport performance within the railway infrastructure network, the largest performance was achieved at railway transport in the following groups of hard coal, lignite, crude oil and natural gas – 30.7% (16.5 billion tonne-kilometres) and at transport of metal ores and mining and quarrying products – 30.2% (16.3 billion tonne-kilometres). The largest dynamics of the performance achieved by railway undertakings was reported at railway transport for: empty packaging – 47.4%, transport equipment – 32.4%, agricultural, hunting, forestry, fishing and fishery products – 12.6%, recyclable and municipal waste – 12.3%, chemicals and chemical products – 6.2%, and metal and metal finished products – 5.8%.

Successive pages of this report show the detailed results of transport for particular groups of goods according to NST 2007 (classification for transported goods in certain transport modes) introduced pursuant to EC Regulation No. 1304/2007. Because of the specific nature of intermodal railway transport (in unit loads – closed containers), these railway services were considered mainly as remaining or non-identifiable goods.

## Transport of raw materials in the years 2005-2011 in terms of transported weight (2004 = 0%)



/Source: Prepared by UTK/

**Volume of transported goods in terms of transported groups of materials (in thousands ton) and the share in the market in 2011**

groups of goods	in total	share in the market [%]	intermodal	share in the market [%]
in total	249 348,263	100,00%	5 906,227	100,00%
agricultural, hunting, forestry, fishing and fishery products	4 734,473	1,90%	0,000	0,00%
including corn	161,729	0,06%	0,000	0,00%
hard coal, lignite, crude oil and natural gas	100 763,012	40,41%	0,000	0,00%
including hard coal	99 211,936	39,79%	0,000	0,00%
metal ores and other mining and quarrying products	74 179,809	29,75%	0,000	0,00%
including iron ores	10 654,099	4,27%	0,000	0,00%
including aggregates, sand, gravel, clay	47 852,140	19,19%	0,000	0,00%
foodstuffs, beverages and tobacco products	1 207,685	0,48%	0,427	0,01%
textiles and clothing, leather and leather products	2,820	0,00%	0,000	0,00%
wood, wooden and cork goods, straw goods, paper and paper goods, printing goods and recordings	1 366,945	0,55%	0,000	0,00%
coke, briquettes, products of crude oil refining, gases manufactured with industrial methods	26 072,373	10,46%	0,144	0,00%
including product of crude oil refining	15 184,092	6,09%	0,144	0,00%
chemicals, chemical products, artificial fabric, goods made of rubber and plastic, nuclear fuel	10 257,406	4,11%	151,385	2,56%
non-metal mineral products	4 278,829	1,72%	0,000	0,00%
including cement, lime, gypsum	3 377,390	1,35%	0,000	0,00%
including other building materials	676,772	0,27%	0,000	0,00%
metal, metal finished products (excluding machines and facilities)	8 466,878	3,40%	0,000	0,00%
machines, appliances, electric and electronic equipment	195,598	0,08%	16,617	0,28%
transport equipment	1 161,805	0,47%	0,000	0,00%
furniture, other ready-made goods	81,334	0,03%	2,080	0,04%
recyclable, municipal waste	5 082,712	2,04%	0,000	0,00%
letters, packages and courier's parcels/shipment	0,000	0,00%	0,000	0,00%
empty packaging	607,668	0,24%	590,938	10,01%
loads carried during the move, remaining loads which are not subject to trade	0,050	0,00%	0,000	0,00%
mixed goods, without food products	336,195	0,13%	0,000	0,00%
non-identifiable goods	4 761,809	1,91%	3 821,298	64,70%
other goods	5 790,862	2,32%	1 323,338	22,41%

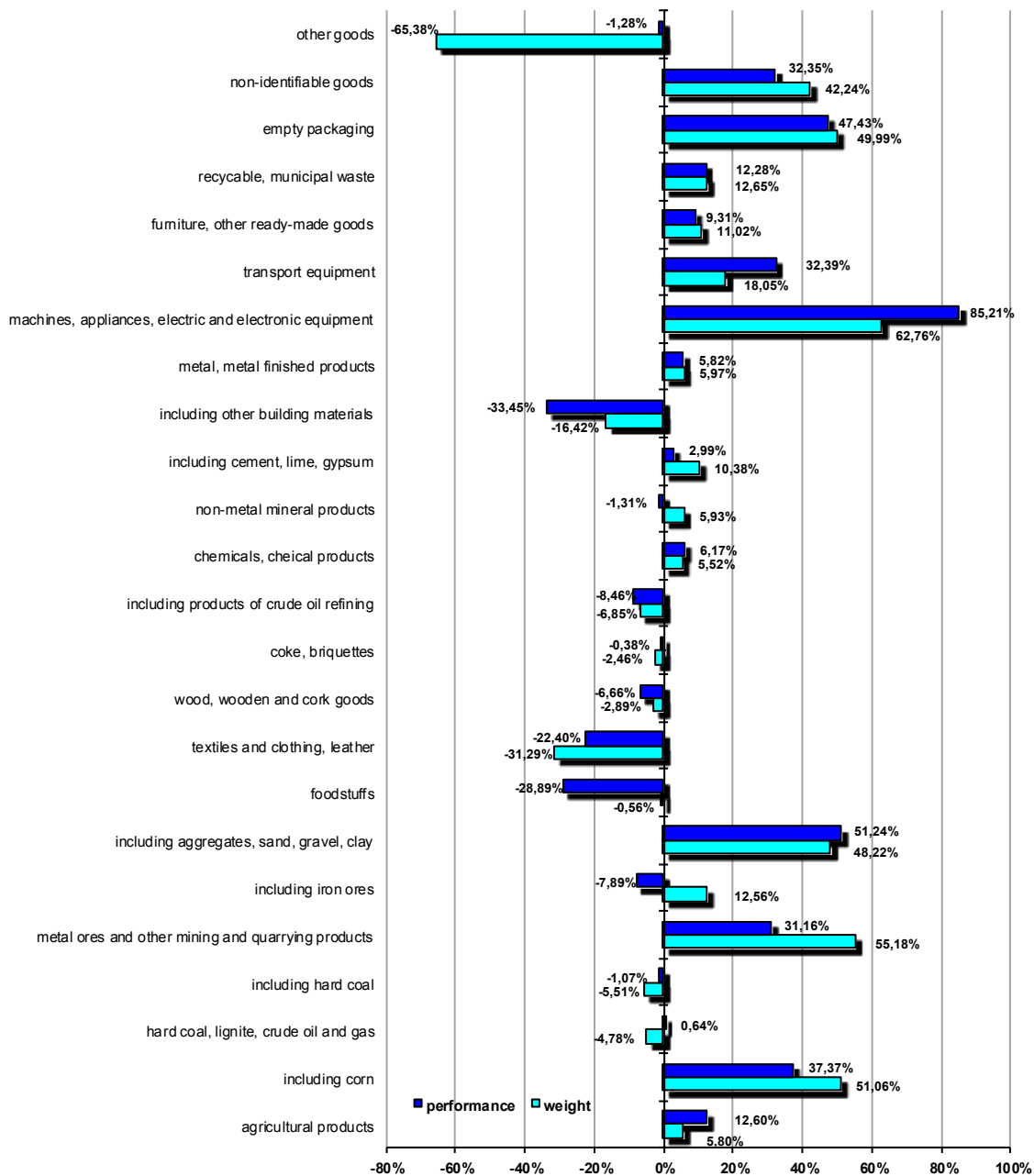
/Source: Prepared by UTK/

**Performance in tkm in terms of groups of goods (in thousands tkm) and their share in the market in 2011**

groups of goods	in total	share in the market [%]	intermodal	share in the market [%]
in total	53 974 430,876	100,00%	2 447 102,213	100,00%
agricultural, hunting, forestry, fishing and fishery products	1 763 986,952	3,27%	0,000	0,10%
including corn	34 233,791	0,06%	0,000	0,00%
hard coal, lignite, crude oil and natural gas	16 553 630,123	30,67%	0,000	0,03%
including hard coal	16 031 772,366	29,70%	0,000	0,00%
metal ores and other mining and quarrying products	16 290 058,574	30,18%	0,000	0,08%
including iron ores	2 839 530,722	5,26%	0,000	0,00%
including aggregates, sand, gravel, clay	11 867 802,120	21,99%	0,000	0,02%
foodstuffs, beverages and tobacco products	189 406,743	0,35%	73,896	0,29%
textiles and clothing, leather and leather products	454,771	0,00%	0,000	0,01%
wood, wooden and cork goods, straw goods, paper and paper goods, printing goods and recordings	416 720,299	0,77%	0,000	1,30%
coke, briquettes, products of crude oil refining, gases manufactured with industrial methods	7 660 424,402	14,19%	25,134	0,00%
including product of crude oil refining	4 716 048,213	8,74%	25,134	0,00%
chemicals, chemical products, artificial fabric, goods made of rubber and plastic, nuclear fuel	3 352 850,887	6,21%	35 826,360	6,73%
non-metal mineral products	1 170 867,502	2,17%	0,000	0,72%
including cement, lime, gypsum	965 398,949	1,79%	0,000	0,00%
including other building materials	130 531,210	0,24%	0,000	0,17%
metal, metal finished products (excluding machines and facilities)	2 059 536,884	3,82%	0,000	1,09%
machines, appliances, electric and electronic equipment	73 597,212	0,14%	4 312,534	1,01%
transport equipment	266 910,906	0,49%	0,000	0,05%
furniture, other ready-made goods	30 970,932	0,06%	360,317	0,21%
recyclable, municipal waste	1 258 588,564	2,33%	0,000	0,03%
letters, packages and courier's parcels/shipment	0,000	0,00%	0,000	0,00%
empty packaging	269 320,108	0,50%	262 978,314	9,26%
loads carried during the move, remaining loads which are not subject to trade	17,000	0,00%	0,000	0,00%
mixed goods, without food products	43 462,423	0,08%	0,000	0,10%
non-identifiable goods	1 886 320,530	3,49%	1 611 033,156	73,90%
other goods	687 306,064	1,27%	532 492,502	5,09%

*/Source: Prepared by UTK/*

### Changes of the transport volume of particular freight groups in 2011



/Source: Prepared by UTK/

Despite the fall in the volume of railway transport of hard coal, bulk transport, including energy sources still prevails in the object structure of goods transported by railway in Poland. The growing importance and demand for railway transport for biomass in 2011 should be noted, consisting of biodegradable solid and liquid substances of plant or animal origin coming from products, wastes and remains after agricultural and forestry production and from the industry processing their products as well as biodegradable parts of other wastes. In 2011, railway undertakings transported almost 1.2 million of biomass, which is 519.1 thousand tonnes more comparing to

2010 (growth by 78.6%). When performing transport, 256.3 million tonne-kilometres were made, so 105.7 million more than in 2010 (growth by 70.1%). The share of railway transport of biomass in the total railway transport volume at the end of 2011 was approximately 0.47%, which was 0.2% more than in the preceding year. In 2011, railway transport of forest origin products prevailed, including: wood, sawdust, wooden chips, briquettes and products of plant origin. The railway transport of biomass was delivered mainly in the national communication and in the import from Eastern Europe countries.

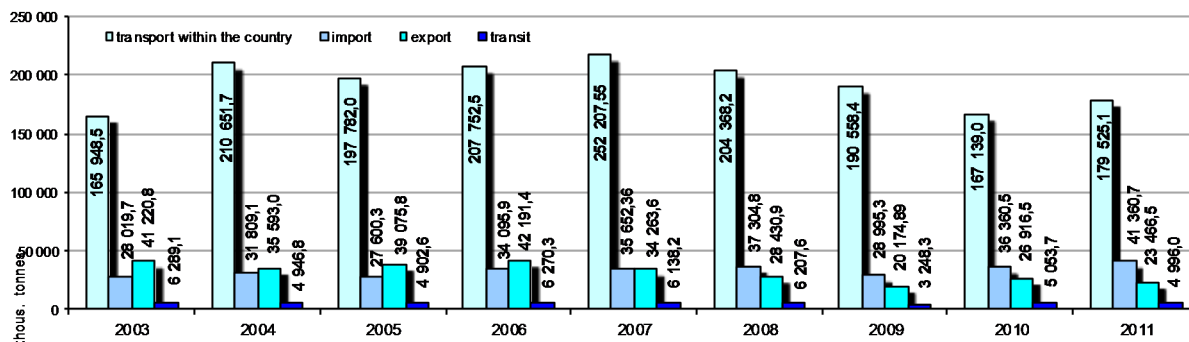
# International freight railway transport

The volume of railway transport in international communication included the goods sent for transport abroad or received from abroad by land or through sea-ports (including with the ones reloaded in ports) for further delivery to the destination station situated on the territory of the country and carried by transit through the territory of Poland. The volume of the transport performance in tkm was calculated as a sum of a product of particular goods weight transported in the wagons and the distance of their transport on the territory of Poland.

In 2011, freight transport in international communication was performed by nineteen licensed railway undertakings, including two companies of the PKP Group: PKP Cargo S.A., PKP LHS Sp. z o.o., four railway undertakings of the CTL group: CTL Logistics Sp. z o.o., CTL Rail Sp. z o.o. and CTL Express Sp. z o.o., CTL Kargo Sp. z o.o., two of DB group: DB Schenker Rail Polska S.A., DB Schenker Rail Spedkol Sp. z o.o. as well as the following railway undertakings: PUK Kolprem Sp. z o.o., Lotos Kolej Sp. z o.o., Rail Polska Sp. z o.o., Kolej Bałtycka S.A., Euronafł Trzebinia Sp. z o.o., STK S.A., Freightliner PL Sp. z o.o., ExTrail Sp. z o.o., Transchem Sp. z o.o., ITL Polska Sp. z o.o., PHU Lokomotiv.

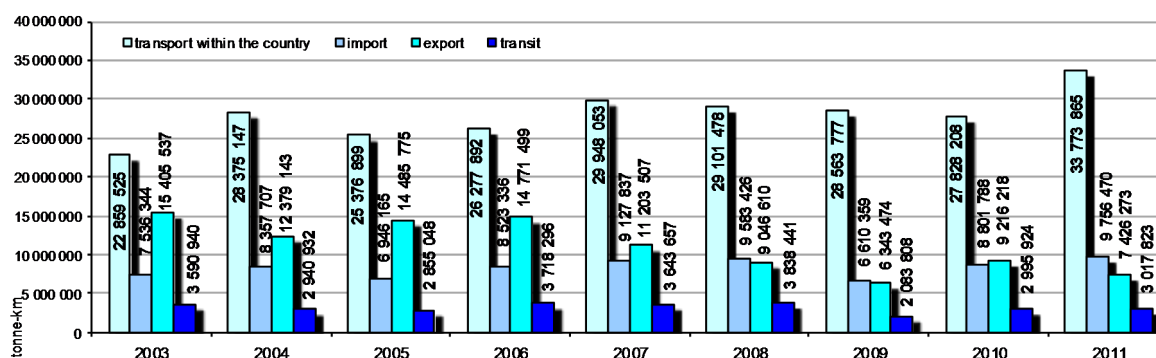
In 2011, the railway undertakings transported 69.8 million tonnes of freight weight and delivered transport performance equal to 20.2 billion tonne-kilometres in terms of international communication. It should be pointed out that after dynamic growth of transport in international communication in 2010, equal to 30.4% in terms of the weight and 39.7% in terms of performance, there was a slowdown of this tendency. The volume of the freight weight increased only slightly by 2.2% with the simultaneous decrease of performance by 3.9%. Nearly 60% of transport in international communication (by 7% more than in 2010) constituted the imported goods. There is still very low level of transit transport even despite convenient geographical location of Poland. This market sector share in international transport, similar to 2010, slightly exceeded 7% in terms of freight weight, and amounted to 2% in the whole railway market. In 2011, only import recorded increase of the transported freight weight by 13.8%. Taking into consideration the transport performance, it increased by 10.8%. The decrease of weight volume was noted both by export as well as transit, by 12.8% and 1.1% accordingly.

## Weight of transported goods in international communication in the years 2003-2011



/Source: Prepared by UTK/

## Transport performance of transport of goods in international communication in the years 2003-2011

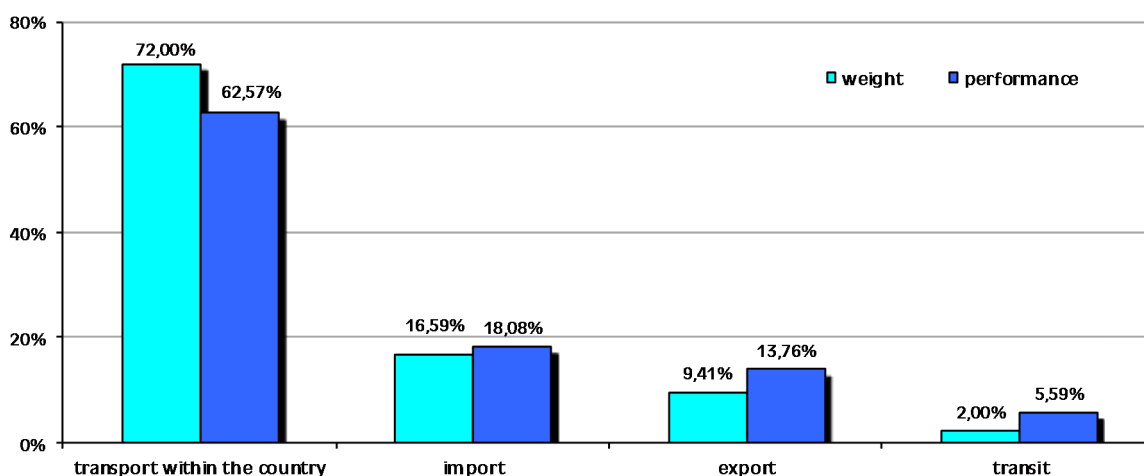


/Source: Prepared by UTK/

The reverse tendency was observed in domestic transport. After considerable decline of the volume in 2010, there was an increase of transport in the previous year. There was a transport of nearly 12.4 million tonnes of goods more than before a year, growth by 7.4% and performance higher by 5.9 billion tonne-kilometres, growth by 21.3%. The share of transport in international communication measured by transported weight is still relatively low. In the years 2003-2009 it was at the level of 25-30%, in 2010 it amounted to 29% and in 2011 only 28%. Due to the distance of this transport (in 2011 around 290

km), its share in the market in terms of transport performance is slightly higher. Up to the year 2006 it was at the level of 50%. In the following years there was gradual decrease of shares, in 2010 to the level of 43% and in 2011 to only 37.4%. In 2011, the largest weight was transported in import – 41.4 million tonnes. Definitely the worst result was recorded by transit – nearly 5 million tonnes of freight weight. The largest transport performance expressed in net tonne-kilometres was delivered in export, 9.8 billion in total.

### Share of communication in the railway transport in 2011



/Source: Prepared by UTK/

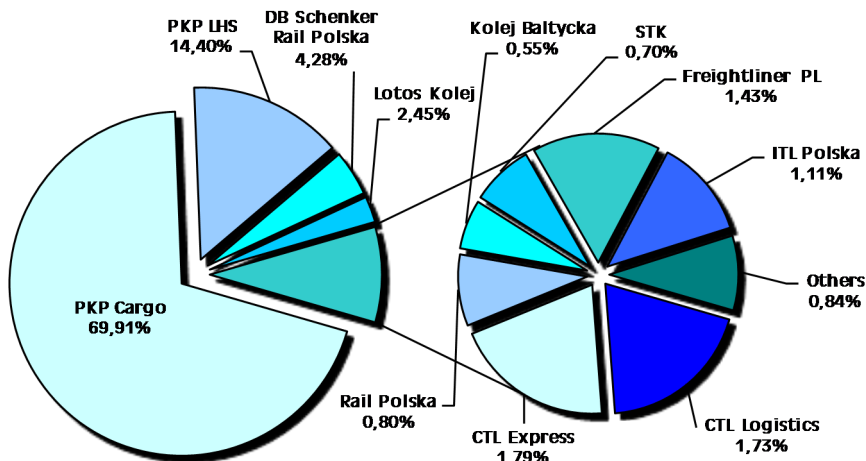




In the international transport, still the largest share belonged to PKP group companies. Their total share (including PKP Cargo and PKP LHS) was on a similar level for few years and amounted to 85-90%. At the end of 2011 it amounted to in terms of weight – 84.3%, in terms of transport performance – 87.1%. The share of the remaining railway undertakings in the market did not considerably change. The largest part of the market belonged to

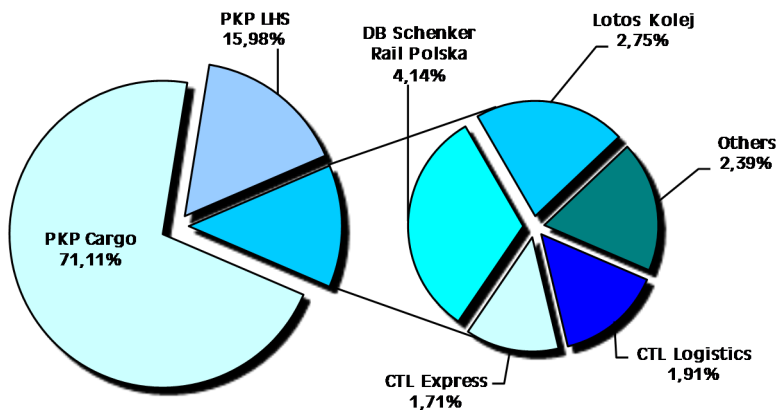
the companies of DB Schenker and CTL capital groups, in terms of weight 4.4% and 3.7% and in terms of transport performance 4.2% and 3.7% as well as the Lotos Kolej company according to weight and performance – 2.5% and 2.8%, correspondingly, Freightliner PL company – 1.4% and 0.5% and ITL company – 1.1%, 0.3%. The share of the remaining companies in the transported freight weight by rail did not exceed 1%.

**Railway undertakings' share in international communication in 2011 according to weight (>0.5%)**



*/Source: Prepared by UTK/*

**Railway undertakings' share in international communication in 2011 according to transport performance (>0.5%)**

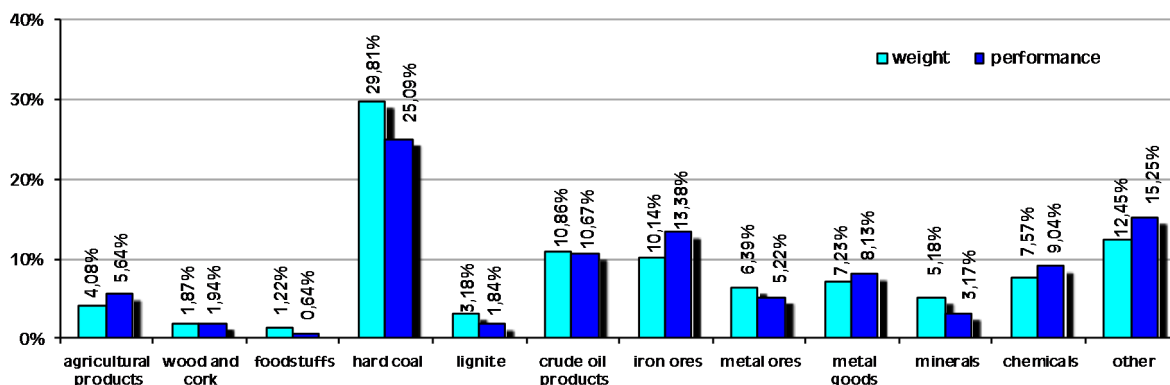


*/Source: Prepared by UTK/*

Analyzing the subject structure in international transport, similarly to the preceding years, what attracts attention is significant share of coal transport. Despite the fact that in 2011 the general level of weight of transported coal decreased by 8.5%, it was still high and amounted to 20.8 million tonnes. In this number, over 62% (12.9 billion tonnes) constituted import, mainly from Eastern Europe countries, including Russia. The remaining part belonged mainly to export (e.g. to Germany) – nearly 32%. In this sector of the market, still the transport of raw materials prevail: mainly coal, coke, metal ore, mining and quarrying products. The largest transport concerned the hard coal and lignite with the share of 33% in terms of weight and 26.9% in terms of transport performance and iron and metal ore – 16.5% and 18.6%. The large share belonged to transport of products coming from the process of refining the crude oil including fuel, accordingly 10.9% and 10.7%. It should be noted, that the share of highly processed and general cargo goods is still insignificant and does not exceed a dozen or so percent. The biggest partners for Poland in the trade exchange remain Germany, Russia, Ukraine and the Czech Republic. Due to this fact, also the share of railway transport in

these directions is the highest, totally nearly 65% of transported freight weight, by 2% more than in 2010. According to the place of shipping and destination place of the goods (according to shipping list), transport between Poland and Germany constituted the largest share – 19.6% of general volume of goods (decrease by 4.2%). In 2011, 12.7 million tonnes in total were transported between those countries, delivering the transport performance at the level of 4 billion of tonne-kilometres. It should be pointed out that transport to and from Germany, in comparison to 2010, considerably decreased by 15.5% in terms of weight and 19.7% in terms of transport performance. Whereby in this period there was an increase of transport between Poland and Eastern Europe countries, among others Russia and Ukraine. Transport in communication to and from Russia constituted 18.9% in terms of weight (12.3 million tonnes – growth by 21.4%) and 11.1% in terms of transport performance (1.9 billion of tonne-kilometres – growth by 31.9%). Shares and transport with Ukraine constituted accordingly: 16.6% (10.8 million tonnes – growth by 15.4%) and 17.6% (3 billion tonne-kilometres – growth by around 9.9%).

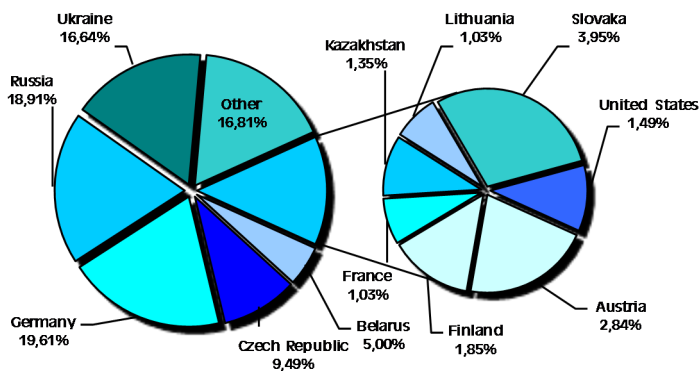
**Structure of goods transported in international communication in 2011**



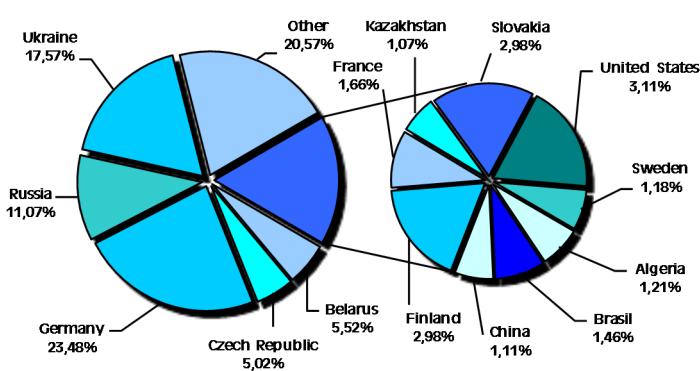
/Source: Prepared by UTK/

**Share of transport in 2011 (according to shipping and destination place)**

**In terms of weight**



**In terms of performance (in tkm)**



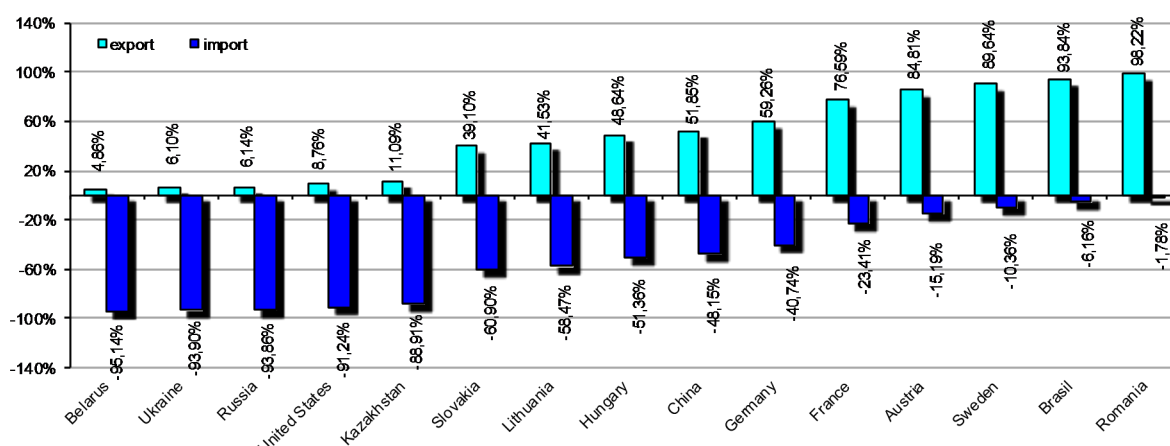
/Source: Prepared by UTK/



In the railway transport between Poland and Eastern European countries, import prevailed, which constituted in communication with Belarus – 95.1%, Ukraine and Russia – around 93.9% and Kazakhstan – 88.9%. The large share of import concerned also the trade exchange with the United States – over 91%. Transport from eastern countries dealt mainly with transport of coal, iron ore and minerals. Quite big share belonged to transport through southern border, mainly with the Czech Republic and Slovakia. Those countries' share in freight transport was equal to 13.5%. Still, there is a very low level of transit transport even despite convenient geographical location of Poland. Their share in general volume of freight

transport did not exceed 2%. The most often transported goods in the transit transport are the following: hard coal – around 25%, iron ore – 21% and readymade metal products – 14.5%. Definitely the largest share in transit belonged to transport to the Czech Republic, including among the others: from Russia – over 22.5% of transit through territory of Poland, the United States – 6.1%, Ukraine – 5.3% and Belarus – 3%. In 2011 average distance inside Poland was 188 km and was by 21,6 km higher than a year before. In the international traffic, the average distance slightly decreased from 307,5 km in 2010 to 289,3 km in 2011.

### Share of export and import in transport between particular countries in 2011



/Source: Prepared by UTK/

### Average distance travelled by goods by rail in the years 2003-2011

	2003	2004	2005	2006	2007	2008	2009	2010	2011
domestic	137,75	134,70	128,31	126,49	137,44	142,40	149,90	166,50	188,13
import	268,97	262,75	251,67	249,98	256,02	256,89	227,98	242,07	235,89
export	373,73	347,80	370,71	350,11	326,98	318,20	314,42	342,40	316,46
transit	570,98	594,51	582,35	593,00	593,60	618,35	641,51	592,82	604,05
total international	351,29	327,27	339,30	327,20	315,24	312,31	286,88	307,53	289,31

/Source: Prepared by UTK/

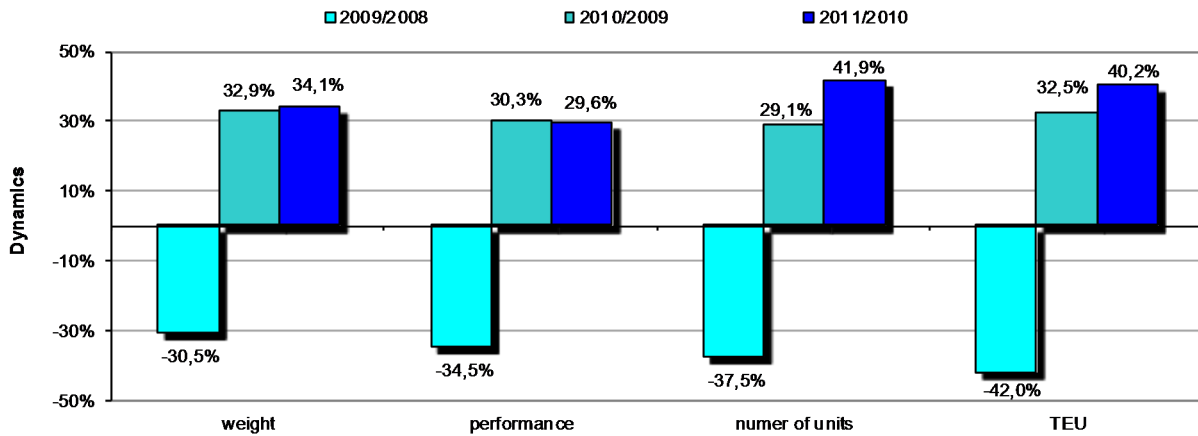


# Intermodal transport

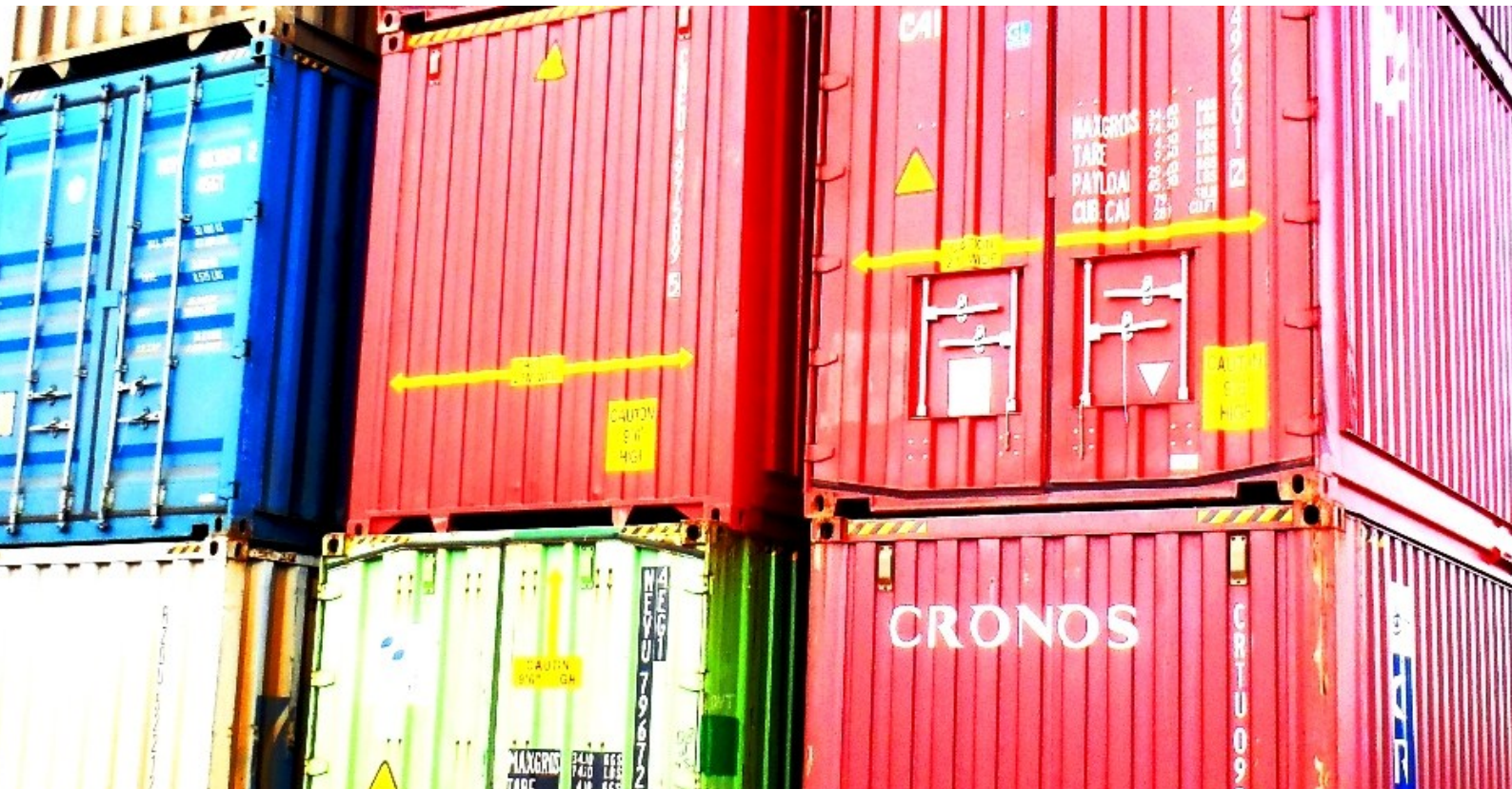
In 2011, intermodal transport was performed by seven licenced railway undertakings, including two companies of the PKP group: PKP Cargo S.A., PKP LHS Sp. z o.o. and Lotos Kolej Sp. z o.o., DB Schenker Rail Polska S.A., CTL Express Sp. z o.o., CTL Logistics Sp. z o.o. and STK S.A. It should be pointed out that since 2007 the number of railway undertakings performing intermodal transport has not considerably changed. In 2011, railway undertakings transported the record number of unit loads, 488.9 thousand pieces in total, including 480 thousand conta-

iners, which in calculation constituted nearly 800 thousand TEU. In comparison to the previous year, number of transported units increased by 41.9%. The total weight of transported loads exceeded 5.9 mln tonnes and the transport performance was equal to 2.4 billion tonne-kilometres. Comparing the data to the results from 2010 it constituted an increase of transport by 34.1% and 29.6% accordingly. It should be underlined that this is the best outcome recorded in the Polish history of intermodal railway transport.

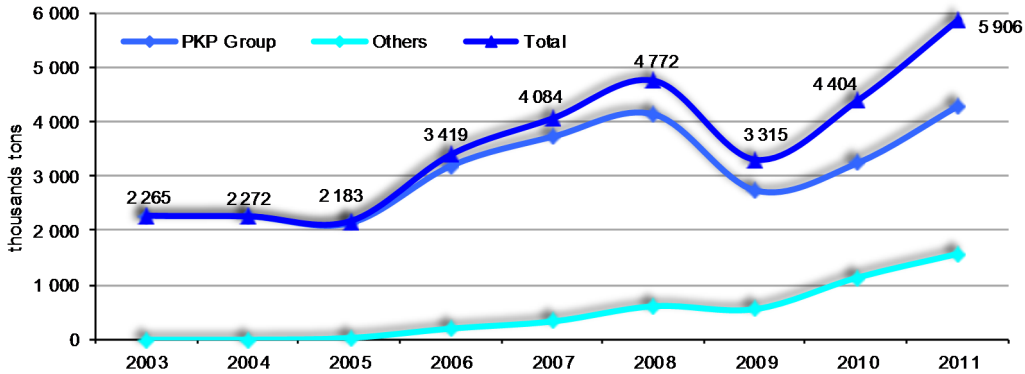
## Change of the intermodal transport volume in the years 2008-2011



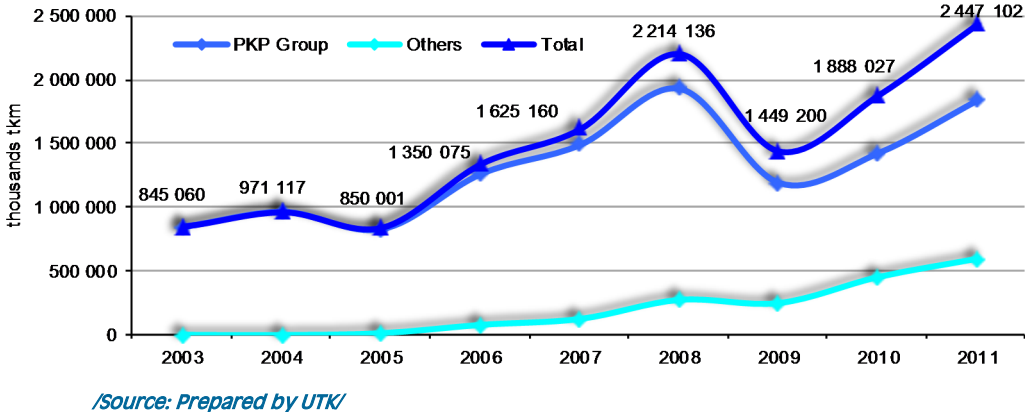
/Source: Prepared by UTK/



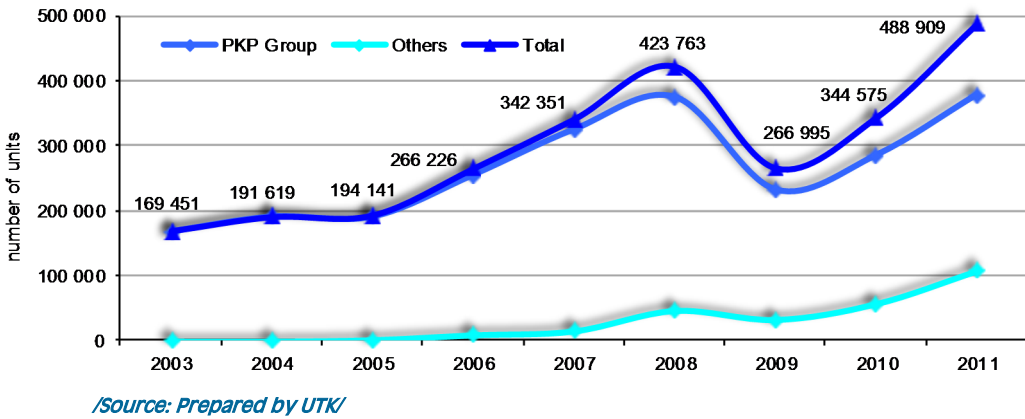
**Intermodal transport according to weight**



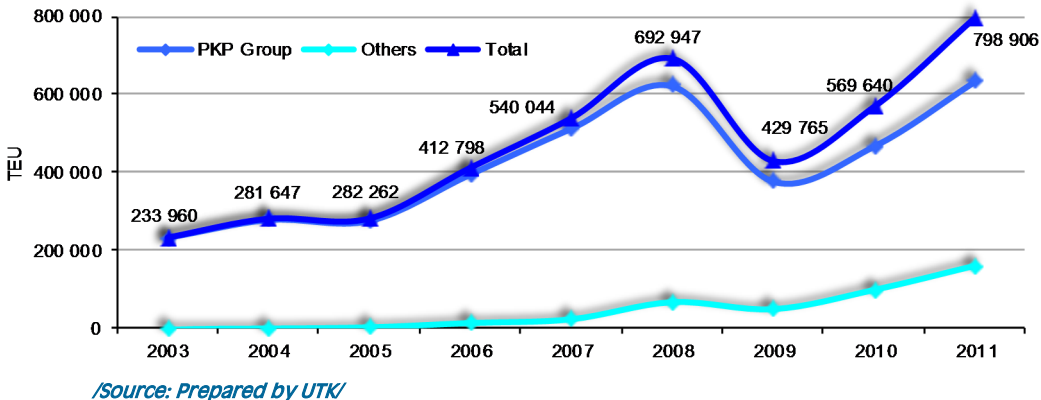
**Intermodal transport according to transport performance**



**Intermodal transport according to number of units**



**Intermodal transport according to TEU**



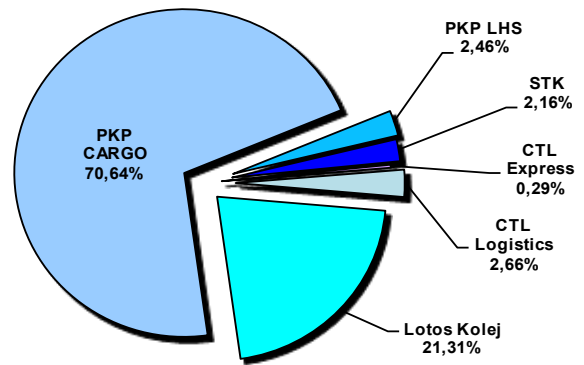
The main player in this sector of the market remained the PKP Group companies. The PKP Cargo and PKP LHS companies share at the end of 2011 amounted accordingly to: in the weight of transported units – 73.1% and transport performance – 75.5%. The second railway undertaking, as far as volume of intermodal transport is concerned, was the Lotos Kolej company. This company's share in the market, taking into consideration the weight and transport performance, amounted accordingly to 21.3% and 21.4%. The total share of the remaining companies including the capital groups of CTL and DB Schenker and STK company is inconsiderable, totally according to the transport performance amounted to around 3.1%.

Similar to the previous years, the national transport share, measuring by the transport performance, did not exceed 20.5%. Due to high costs of performing such transport by rail, disproportionately to the road transport and low quality of the railway line parameters, including the average commercial speed not exceeding 35 km/h, the transport of containers for short distance are not profitable. The share of international transport is still very high and is shaped at the level of 80%.

Taking into consideration the international transport, the share of particular types of communication, according to the number of transported units, was relatively similar and amounted accordingly to: in import – 26.14%, in export – 25.97% and transit – 25.12%. The Polish intermodal transport are based mainly on use of the land transport, which constituted 77% (in terms of transport performance). The share of transport through seaports is still insignificant, in 2011 it amounted to nearly 23%.

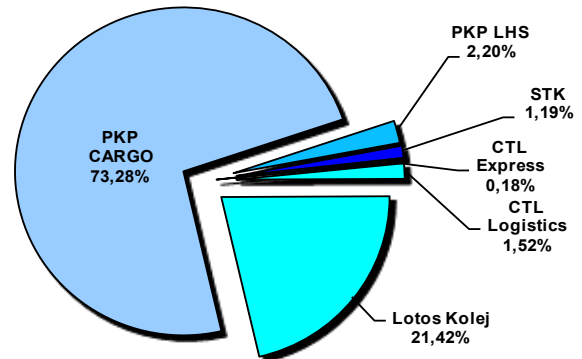
Intermodal transport takes place mainly with the use of containers, the share of which in the general number of units amounted to 98.26% (at the end of 2011). 40 feet units transport dominated, which constituted 59%. The share of remaining containers amounted accordingly to: 20 feet – 33.47% and 30 feet – 5.76%.

**Share in the market according to weight in 2011**



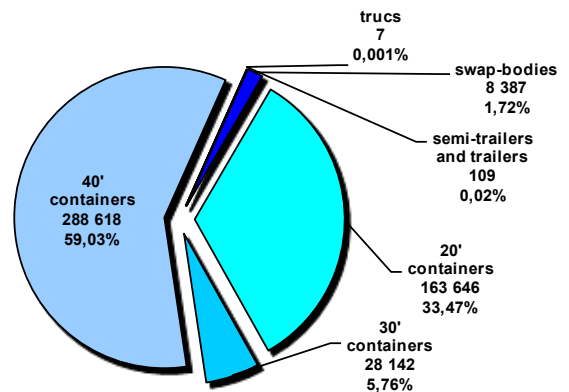
*/Source: Prepared by UTK/*

**Share in the market according to transport performance in 2011**



*/Source: Prepared by UTK/*

**Share of transport units in 2011**



*/Source: Prepared by UTK/*



In 2011, full containers (with the load) prevailed, which constituted 60.9% (in terms of their number), by 0.9% less than in 2010. There was a slight decrease in the share of transport of vehicle swap bodies, the so called transport containers of "swap body" type – which amounted to 1.7% at the end of 2011 (decrease by 0.3% in relation to 2010) and semi-trailers and trailers in bulk, without the engine vehicle – 0.022% (decrease by 0.01%).

In 2011, for the first time the share of intermodal transport in the railway transport market measured with the load weight exceeded the threshold of 2% and amounted to 2.37%. It was higher by 0.5% in comparison to 2010 and by 0.64% in comparison with the record achieved in 2008. In terms of transport performance, it constituted 4.53% - increase of the share in comparison to 2010 by 0.67%. Still, the volume and share in the railway market

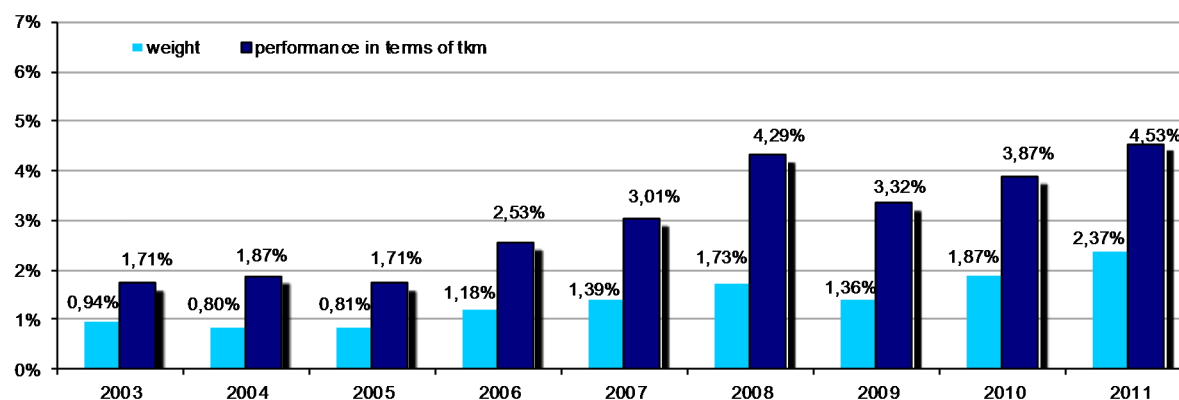
classifies Poland far away in the rank of the European countries. In 2011, the average in the EU countries, in terms of weight of this type of loads, exceeded 10% and in terms of transport performance it was close to the level of 18%. If the preferences as far as track access charges are concerned are maintained on the current level of 25% discount, the intermodal transport share in the railway market should still increase. It should be emphasized that in order to achieve fast compensation of disproportion between Poland and the European Union countries, this sector share in the railway market should increase in the pace of around 1-2% per annum. To achieve that, the preferential conditions of railway undertakings functioning are required, among other things, the stable policy concerning intermodal transport support in the longer perspective of time.

#### Share of particular units in the intermodal transport in the years 2003-2011

year		containers	trucks with semi-trailers	semi-trailers and trailers	"swap-bodies"
2003	weight	89,591%	0,836%	0,120%	9,453%
	performance	96,763%	0,846%	0,042%	2,349%
2005	weight	94,246%	0,493%	0,133%	5,128%
	performance	98,002%	0,505%	0,056%	1,437%
2007	weight	97,818%	0,001%	0,000%	2,182%
	performance	98,761%	0,001%	0,000%	1,239%
2009	weight	96,376%	0,000%	0,001%	3,622%
	performance	97,099%	0,001%	0,001%	2,900%
2011	weight	97,234%	0,000%	0,040%	2,727%
	performance	97,808%	0,001%	0,023%	2,167%

/Source: Prepared by UTK/

#### Share of intermodal transport in the railway market in 2003-2011



/Source: Prepared by UTK/

# Transport of dangerous goods

In 2011, the activity dealing with transport of dangerous goods was performed by twenty three licenced railway undertakings (in relation to 22 in 2010), including the PKP group companies: PKP Cargo S.A. and PKP LHS Sp. z o.o., CTL group: CTL Express Sp. z o.o., CTL Kargo Sp. z o.o. and CTL Logistics Sp. z o.o., DB Schenker group: DB Schenker Rail Polska S.A. and DB Schenker Rail Spedkol Sp. z o.o. and railway undertakings: Euronaft Trzebinia Sp. z o.o., Freightliner PL Sp. z o.o., GATX Rail Poland Sp. z o.o., Hagans Logistics Sp. z o.o., Kolej Bałtycka S.A., Lotos Kolej Sp. z o.o., Majkoltrans Sp. z o.o., Orlen Kol-Trans Sp. z o.o., Pol-Mieź Trans Sp. z o.o., PUK Kolprem Sp. z o.o., PTK Koltar Tarnów Sp. z o.o., Rail Polska Sp. z o.o., S&K Train Transport Sp. z o.o., STK S.A., Transchem Sp. z o.o., Wiskol Sp.J.

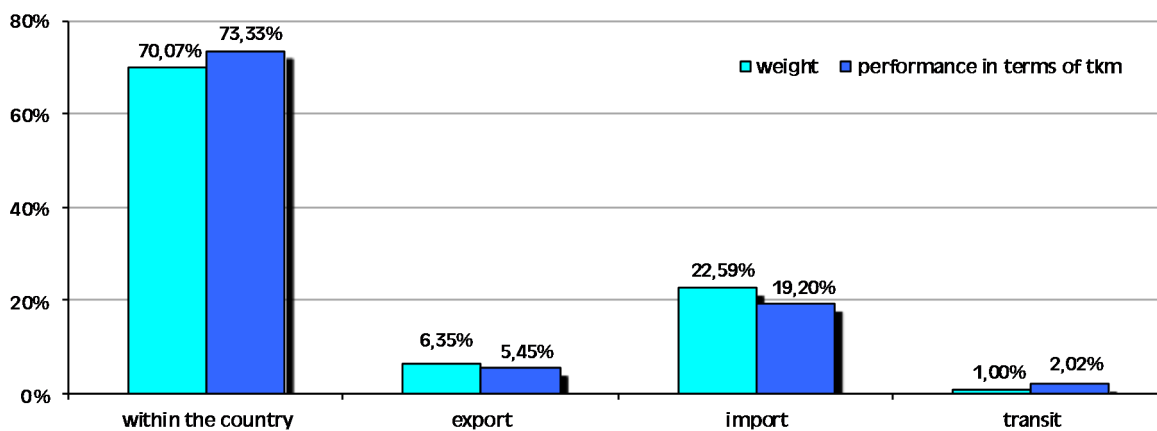
Railway undertakings transported in total 23 million tonnes of dangerous goods making the transport performance at the level of 7.4 billion tonne-kilometres. In comparison to 2010, transport of dangerous goods noted the increase at the level of 4.1% according to the

weight and 8.3% according to the performance. The transport of dangerous goods' share in the railway market amounted in terms of weight to 9.23% and in terms of performance – 13.65%. It needs to be pointed out that despite the increase of general volume of transport of dangerous goods, since 2009 there is a tendency of decline of shares, mainly in the transport performance. In the years 2009-2011, this sector share diminished from 14.59% to the level of 13.65%.

Transport of dangerous goods is performed mainly by national traffic, which constituted over 70% as far as weight is concerned and 73.3% in terms of transport performance. Export and transit's share is insignificant. It was around 5-6% in export, and in transit, while the transport performance slightly exceeded the threshold of 2%.

In 2011, similarly to the previous year, over 70% of transported dangerous goods included flammable liquid materials (crude oil and petroleum products, e.g. fuels, diesel oil).

## Share of communication in the transport of dangerous goods in 2011



/Source: Prepared by UTK/

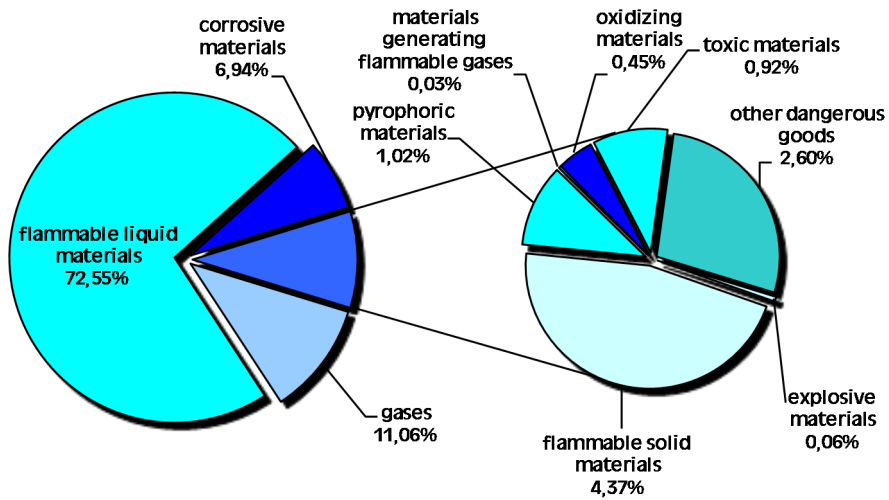


According to the dangerous materials classification (in compliance with RID regulation for international railway transport of dangerous goods) apart from flammable liquid materials, the largest share in transport belonged to gas (11.1% of weight and 11.5% of transport performance), corrosive materials (analogously 6.9% and 5.4%) and flammable solid materials (4.4% and 5.2%). The largest railway undertaking in the sector of dangerous goods transport, in terms of transported weight, is PKP Cargo. In 2011 the company transported 6.9 million tonnes of goods which constituted 29.96% of share in the market, towards 33.5% in 2010. On the second place, with the analogous share as in the preceding year (28.6%) was the Lotos Kolej company. In terms of the transport performance, the first place was taken by Lotos Kolej compa-

ny which performed over 2.6 billion tonne-kilometres (with the share equal to 36%, by 0.4% more than in 2010). The PKP Cargo company's share in 2011 amounted to 28.6% and was lower by 4.2% comparing to the preceding year.

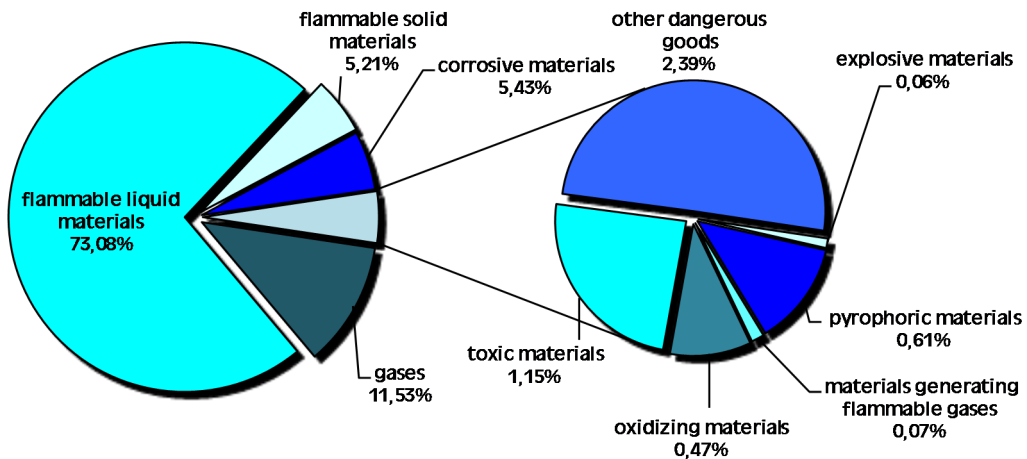
The railway transport is currently the one of the most popular form of oil fuel transport in Poland, mainly due to big transport possibilities (load capacity) and higher safety of transport comparing to road transport. The volume of liquid flammable materials transport, including oil fuel, has been increasing for years. Only in 2011 their transport amounted to 7% more than in the preceding year. Comparing to 2008 the level of transport in this group of goods increased by 1/3.

**Share of transport of particular groups of dangerous goods in 2011 (according to weight)**



*/Source: Prepared by UTK/*

**Share of transport of particular groups of dangerous goods in 2011 (according to transport performance)**



*/Source: Prepared by UTK/*

## Structure of the rolling stock held by railway undertakings

When analyzing the data on the rolling stock held by freight railway undertakings, in 2011 a slight increase in the stock of locomotives and freight wagons took place. The total number of locomotives increased by 11 up to the level of 3,170, while the number of wagons – by 437 (101,511 items in total). More than 60% of the total number of locomotives was the combustion/diesel rolling stock (2,233 items, 44 more than in 2010). The number of electric locomotives slightly fell, from 1,488 down to the level of 1,457 items (by 2.1%). Taking into consideration the wagon rolling stock, coal wagons were in the largest number – more than 59% (59,978 items). Comparing to 2010, their number increased by 2.1% (1,254 items). A significant decrease in the number of locomotives in 2008 was caused mainly by taking over by PKP Intercity a part of the traction rolling stock held by PKP Cargo. In 2011,

the total loading capacity of wagons was 5,494,000 t, so 54,300 more than in 2010. The average loading capacity per wagon was 54.1 t. The highest one was reported for coal wagons – 3,474,000 t and rail cars – 769,000 tonnes.

The process of rolling stock exchange still goes slowly, as a consequence, this has no significant effect on the transport offer extension. Entrepreneurs still focus on bulk transport, e.g. hard coal and aggregates. There is no sufficient number of special wagons on the Polish market e.g. for transport of containers in the intermodal system and transport of highly-processed goods. Fast modernization of rolling stock would allow much decrease in both external costs and costs of providing transport, including increase in rail potential, speed, safety and decrease in the train paths wear and tear and the noise factor.

### Number of items of rolling stock of freight operators

type of rolling stock	year									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
locomotives total	4 308	4 467	4 432	4 398	4 462	3 988	3 944	3 699	3 710	
electric locomotives	1 831	1 857	1 855	1 884	1 831	1 506	1 512	1 488	1 457	
diesel locomotives	2 477	2 590	2 557	2 494	2 610	2 461	2 410	2 189	2 233	
steam locomotives	0	20	20	20	21	21	22	22	20	
wagons total	106 911	114 839	111 897	109 487	112 842	112 699	107 795	101 74	101 511	
covered wagons	10 840	11 125	10 469	9 754	9 807	8 961	7 609	5 814	4 898	
coal wagons	65 166	68 261	67 169	66 714	67 493	66 281	63 166	58 724	59 978	
flat wagons	12 781	13 238	12 945	12 770	12 962	13 312	12 871	12 165	11 958	
tank wagons	12 816	15 556	14 702	13 472	13 801	14 877	14 873	15 041	14 665	
refrigerated vans	181	95	17	4	0	0	0	0	0	
wagons with a sliding	874	763	984	1 019	954	1 015	1 015	1 201	1 197	
special	4 253	5 801	5 611	5 754	7 825	8 253	8 261	8 129	8 815	

/Source: Prepared by UTK/

### Load of rolling stock of operators

wagon load	rok									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
wagons total	5 660,09	6 211,15	6 052,70	5 921,02	6 109,37	6 014,76	5 804,11	5 439,38	5 493,68	
covered wagons	451,03	454,34	421,41	386,48	386,44	339,41	288,07	207,94	160,91	
coal wagons	3 570,34	3 906,90	3 852,36	3 829,23	3 896,39	3 778,96	3 639,19	3 391,59	3 473,83	
flat wagons	740,44	753,38	739,63	731,09	740,44	756,55	731,82	694,78	680,00	
tank wagons	695,91	837,23	781,01	706,56	729,02	766,59	768,93	779,64	769,30	
refrigerated vans	3,53	1,85	0,33	0,08	0,00	0,00	0,00	0,00	0,00	
wagons with a sliding roof	43,01	37,77	49,90	51,08	48,20	53,00	53,00	62,02	62,21	
special	155,83	219,68	208,05	216,50	308,89	320,27	323,12	303,43	347,43	

/Source: Prepared by UTK/





It should be noted that the straight majority of railway undertakings still depend their investment plans on getting long – term transport contracts, while this is possible only by way of determining the long – term development strategy and financial support for this segment of the market, including creation of the policy of discounts reductions and preferential charges for access to railway infrastructure.

The combustion/ diesel rolling stock is the majority of locomotives held by freight railway undertakings. The SM42 and SM48 series are the most popular. At the end of 2011, railway undertakings held 943 and 320 items accordingly. The share of electric locomotives was just under 40%. The most popular type of electrical traction powered vehicles is the ET22 locomotive. Totally, railway undertakings held 905 locomotives of this series (35 less than a year before). Electric locomotives of ET41 series (157 items in total) and EU07/EP07 (94 items) had a large share.

The rolling stock in Poland is still highly worn out. The average age of locomotives at the end of 2011 was 32.3 years (0.2 year less than a year before), of wagon rolling stock – 27.1 years (increase with 0.4). It should be noted that Polish railway undertakings have one of the largest stock of trains and infrastructure in the EU, as regards both wagons and traction means for freight transport. Unfortunately, the material part of this stock is out of use, and the condition and technical parameters of vehicles in use much differ from the European average. Taking into account the wagon rolling stock, coal wagons are the youngest with their average age of 25.2 years in 2011. The age of the remaining ones fluctuated on the level of 28 – 29 years, of which: covered wagons – 28.3 years old, rail cars – 29.2 years old, platforms – 29.3 years old, wagons with opening roofs – 29.6 years old. The rolling stock with special construction – 33.1 years old, and other wagons not listed in the aforesaid groups – 35.3 years old belonged to the oldest.

# Volume, structure and efficiency indicators of the railway market

In 2011, the process of reduction of the employees headcount in the freight transport sector was still ongoing. At the end of 2011, the employee headcount was 33,094, 8.2% less than in 2010. The fall in the employee headcount in 2009 was caused by the takeover by the company Przewozy Regionalne, and next by PKP Intercity, of a part of employees of PKP Cargo company (mainly drivers). The fall in the next years results from the further reduction in the ongoing restructuring process to minimize operating costs at railway undertakings. The highest percentage was employed by PKP Cargo, totally 74% of all the employees of the freight transport sector, next was DB Schenker Group – 5.6%, CTL Group – 2.65%, PKP LHS – 2.6%, Lotos Kolej – 2.2% and Pol-Miedź Trans – 1.9%. The share of the remaining undertakings was less than 1%.

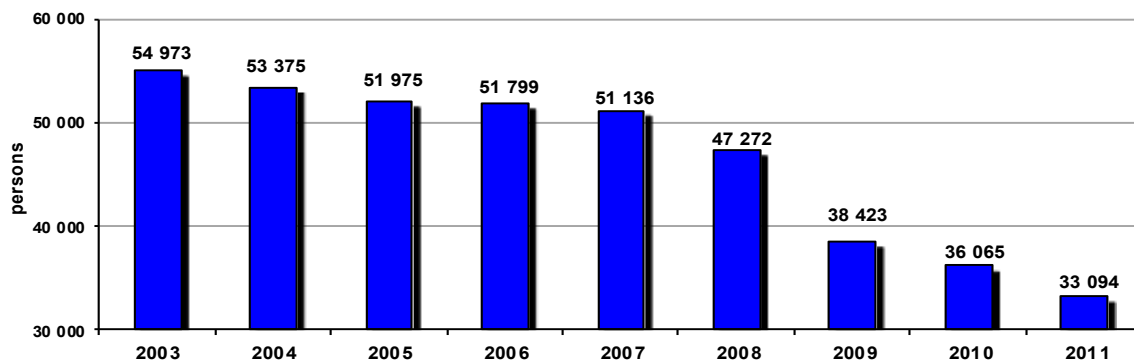
In 2011, railway undertakings reported further growth in their income on railway operations, mainly

resulting from increase in the transport volume (both in weight and in operation and transport performance). Comparing to 2010, income of railway undertakings increased by 11.8% (896,000,000 PLN). The total income of freight railway undertakings approached the level of 8.5 billion PLN. Railway undertakings earned the profit of almost 0.5 billion PLN. Apart from the increase in the transport volume, also the growth of prices for transport, mainly in respect of hard coal and aggregates, could translate into the growth of the freight transport sector income and profitability.

The material part of railway undertakings gained in 2011 the growth of workforce productivity measured as income per employee. This indicator was 255,000 PLN/employee, so 21.4% more than in 2010.

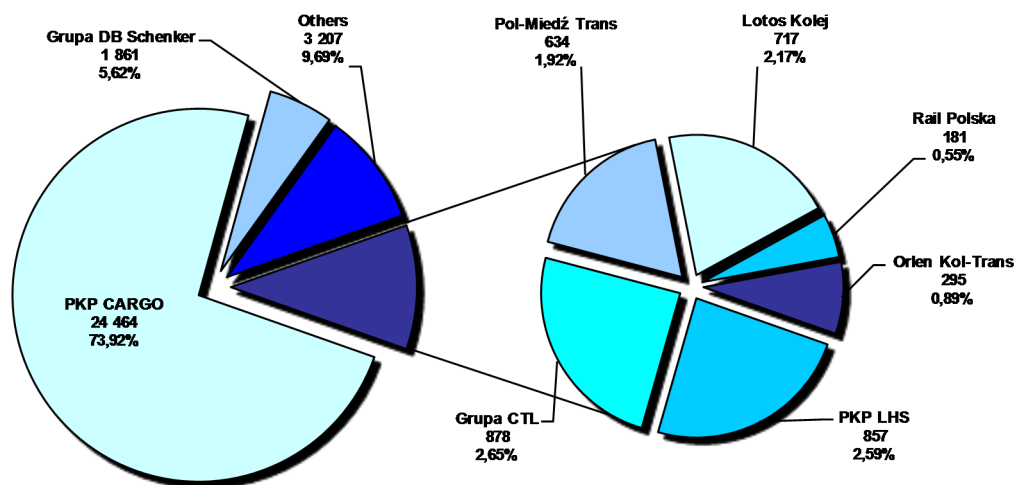
Taking into consideration income of railway undertakings per one transported tonne of goods, in 2011 a reverse tendency was noted comparing to the preceding

## Employment in the sector of freight railways in the years 2003-2011



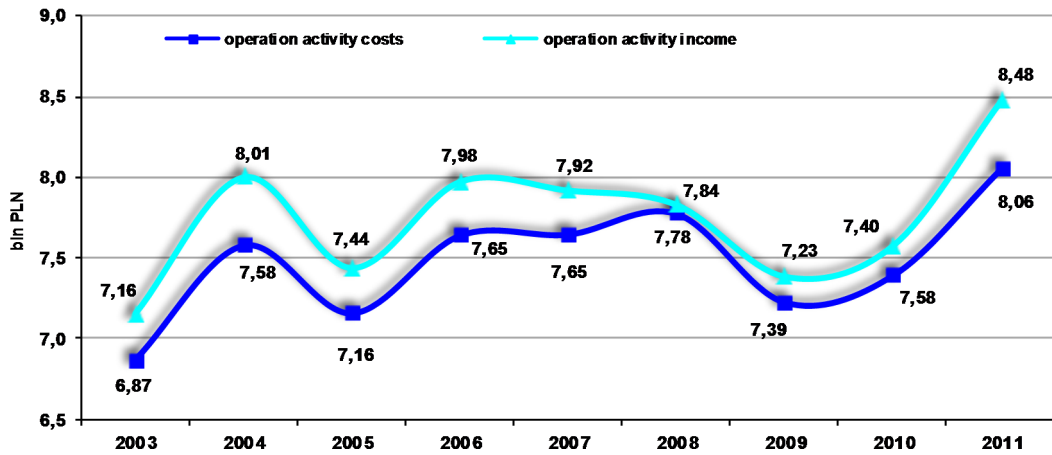
/Source: Prepared by UTK/

## Employment share in the sector of freight railways in 2011



/Source: Prepared by UTK/

**Results of operation activity income of rail freight transport undertakings in the years 2003-2011 (bln of PLN)**



*/Source: Prepared by UTK/*

year. The end of the so called 'price war' on the market brought the growth of income per tonne with almost 16%, up to the level of 33.99 PLN. It should be noted that the level of the said indicator much depends on the distance the transport was performed.

In 2011 railway undertakings' incomes per 1 tonne-kilometer increased slightly only with 1.3%, up to 0.157 PLN per 1 tonne – kilometer. However, a material part of

railway undertakings reported the fall of this indicator. The average cost of carrying 1 t of goods by rail increased significantly, in 2011 with more than 12.5% up to 32.29 PLN per t. In 2011, the average cost of performance of 1 tonne-kilometer by railway undertakings decreased. At the year-end it was 0.149 PLN, falling with approximately 1% in relation to the preceding year.

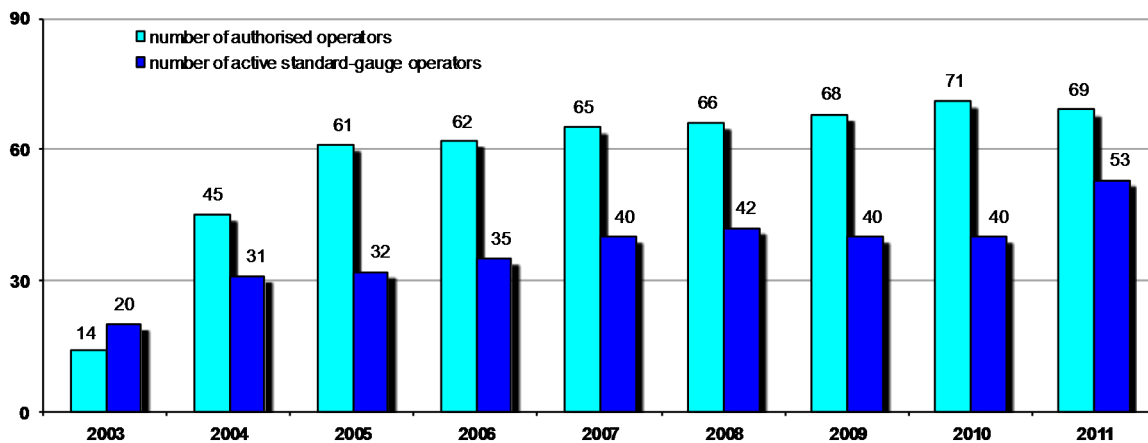


# Licensing the freight railway transport

In 2011, pursuant to the provisions of the Article 10 paragraph 1 point 2 of the Railway Transport Act, the President of UTK granted five licences for performing the transport of goods, similar to the preceding years where the number of licences oscillated at the level of 4-7 per year. At the end of the previous year, valid licences (excluding the suspended ones) authorising to perform transport were held by 69 railway undertakings, including 5 licences held by narrow gauge railway undertakings. Since the beginning of the Office of Rail Transportation (UTK) establishment, the President of UTK has granted 99 licences authorising to perform this kind of transport services. Large number of licences issued in the years 2003-2005 was connected with the implementation of the provisions of so called First Railway Package and obligation of licencing the freight railway transport introduced in Poland. In the preceding years, the process of numerous ownership changes was observed. Thus, despite the

new licenced entrepreneurs occurring on the market, the number of authorised as well as performing the transport service entrepreneurs did not considerably change. Whereas in 2011, the significant increase of the number of entities actually performing the transport was noted. 13 new railway undertakings commenced the licensed performance. The timeline between the beginning of the second half of 2003 and the end of February 2004 was the transition period, when the legal status allowed the railway undertakings to perform transport on the basis of concessions granted by the minister competent for transport or upon the licence granted by the Office of Rail Transportation. Taking the above into consideration, the number of railway undertakings performing the transport services in 2003 was higher from the number of authorised railway undertakings acting on the basis of the licence.

**Number of licenced railway undertakings authorised to perform transport and actually acting on the railway market in the years 2003-2011**



*/Source: Prepared by UTK/*



# Railway infrastructure



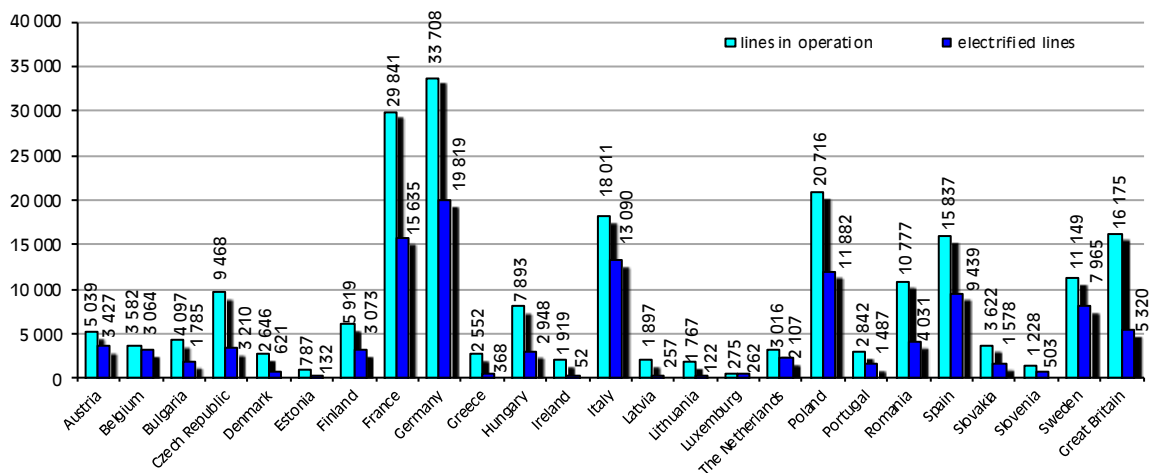
# European railway infrastructure (line infrastructure)

At the end of 2010 the total length of railway infrastructure (railway lines) of the all European Union countries amounted to around 214.7 thousand kilometres. This number includes 112.2 thousand kilometres of lines provided with traction network. The electrified lines constituted 52.2% of the whole infrastructure network. Poland had one of the longest network of railway lines in the whole European Union. The lines in operation in Poland constituted nearly 10% of the European network. The share of electrified lines amounted to 10.6%. The longest line belonged to Germany (33.7 thousand kilometres) and France (29.8 thousand kilometres). The shortest length of the railway lines belonged to Luxembourg (275 kilometres) and Estonia (787 kilometres). Data presented below concerns the state on 31 December 2010. For Poland the state from 31 December 2011 was taken into account. Data referring to the whole reporting period is published by the European Statistical Office "Eurostat" up to 18 months since the full calendar year finishes.

Taking into account all the Member States of the European Union, the length of railway lines has fallen by nearly 10% for 20 years (1990-2010). The largest fall was



**Length of railway lines in operation in EU countries at the end of 2010 (data for Poland – 2011)**



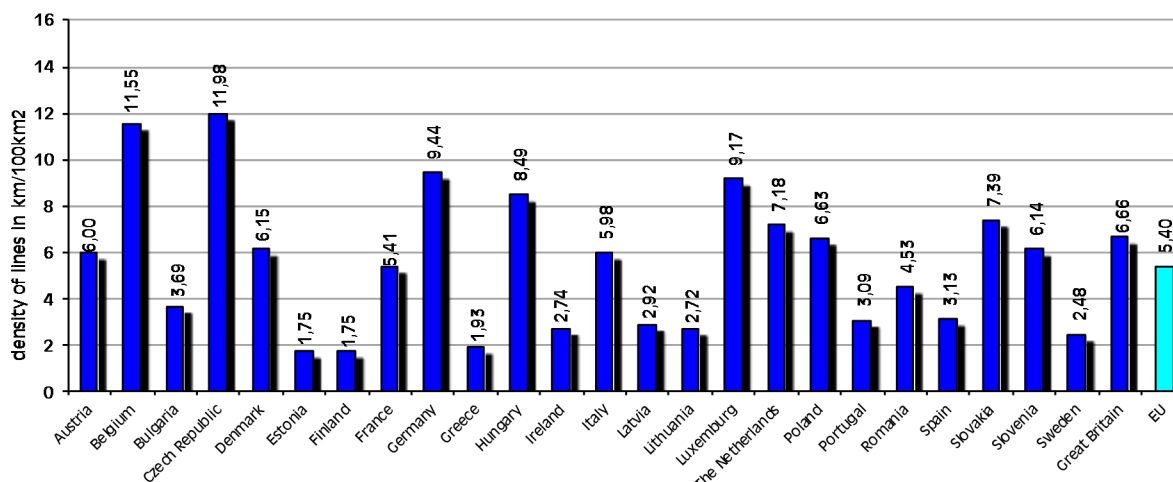
/Source: Prepared by UTK/



recorded by the countries of the largest infrastructure network, i.e. France, Germany and Poland. The falls amounted to a couple of thousand kilometres in these countries and contributed in a considerable extent to the fall of the European average.

The most significant increase of the length of railway infrastructure in operation for the two decades was noted by: Spain (from 14.5 thousand km up to 15.8 thousand km) and Italy (from 16.1 thousand km up to 17.0 thousand km), mainly due to constructing the high speed railway lines. In the recent decades, the significant growing dynamics was observed in the length of lines designated for transport performance with the speed exceeding 250 km/h. Since 1985 the length of high speed lines has increased over ten times: from 643 km up to 6,830 km in 2011. The longest infrastructure of this type belonged to Spain (2,144 km), France (2,036 km), Germany (1,285 km) and Italy (923 km). The average density of the railway network in the EU countries in 2010 (including the conventional and high speed lines) amounted to 5.4 km of the line on the area of 100km<sup>2</sup> of all countries. The largest density belonged to the Czech Republic which was 11.98km/100<sup>2</sup>km and Belgium which was 11.55km/100km<sup>2</sup>. The network of the lowest level of density belonged to Finland and Estonia – 1.75km/100km<sup>2</sup>. Density of the railway infrastructure in Europe is dependent among other things on geographical factors as well as on economic and historical ones. The railway infrastructure in the countries situated in the central part of Europe (e.g. Benelux countries, Germany, the Czech Republic and Hungary) is much more dense comparing to the infrastructure in the countries situated in the peripheral areas (e.g. Scandinavian countries, The Iberian Peninsula, Greece and Bulgaria). Particularly large density of the railway infrastructure is within the area of the European capital cities agglomerations, e.g. Berlin (around 70km/100km<sup>2</sup>) and Prague (around 50km/100km<sup>2</sup>). As a rule, particularly high density of the railway lines network (designated in great measure for transport of goods) is observed in the regions of traditionally strong position of the industry connected with steel production and mining for coal, e.g. in Silesian region in Poland (around 17.5km/100km<sup>2</sup>).

**Density of the railway network in the EU countries (km/100km<sup>2</sup>) in 2010 (data for Poland – 2011)**



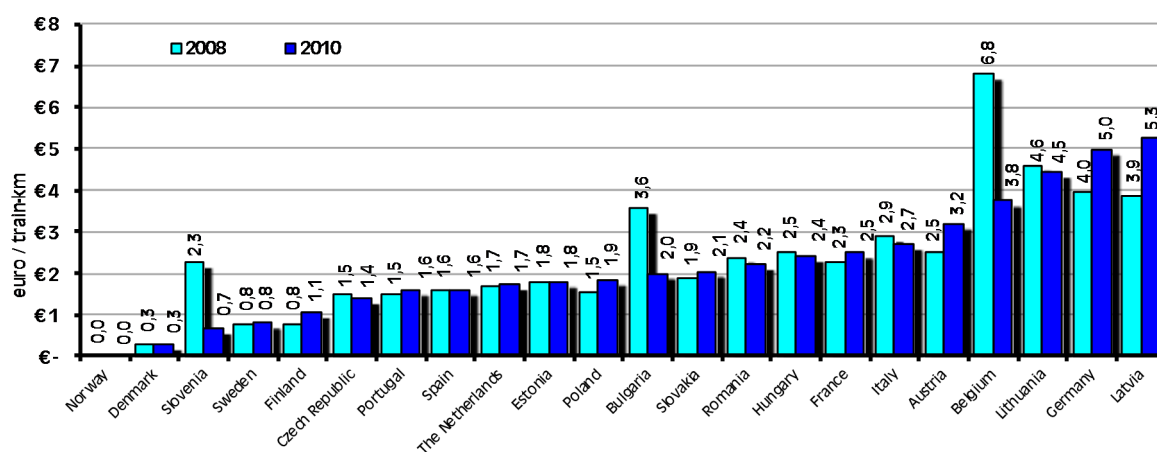
/Source: Prepared by UTK/

# Charges for access to the railway line infrastructure in the European countries

According to the results of the comparative analysis, the level of the Polish rates in the freight traffic classified Poland in the zone above the European average. To compare, the average unit rate of the basic charge in Poland was over twice higher than in France and around 75% higher than in Germany (in the countries with the large volume of freight transport). The highest level of charges for access to railway infrastructure was in such countries as Latvia and Slovakia. In 2010 it oscillated at the level of 10 Euro per train-kilometre performed on the network. The lowest level of the rates was noted in Spain and Sweden – approximately 0.4 Euro per 1 train-kilometre. The level of rates for passenger traffic (around 1.9 Euro) classified Poland in the zone of average levels of

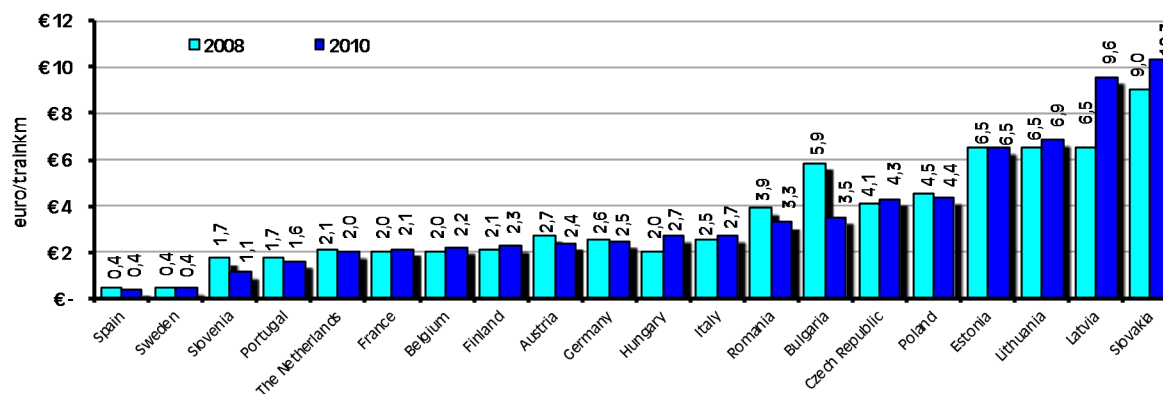
European countries. The average unit rate of the basic charge for passenger trains in Poland was over twice lower than in Germany (around 5 Euro for train-kilometre). It should be noticed that the deciding elements influencing the demand for railway services, apart from the price for access, are the quality parameters of the infrastructure, range of transport services, speed, punctuality and timeliness of transport. It should be pointed out that the freight railway undertakings incur far higher costs for access to the infrastructure comparing to passenger railway undertakings. The coefficient of the rate for freight trains towards the passenger ones was one of the highest in Europe.

## Average unit rates of access charges for passenger trains in EU countries



/Source: Prepared by UTK on the basis of RMMS questionnaire and Rail Liberalisation Index 2011/

## Average unit rates of access charges for freight trains in EU countries



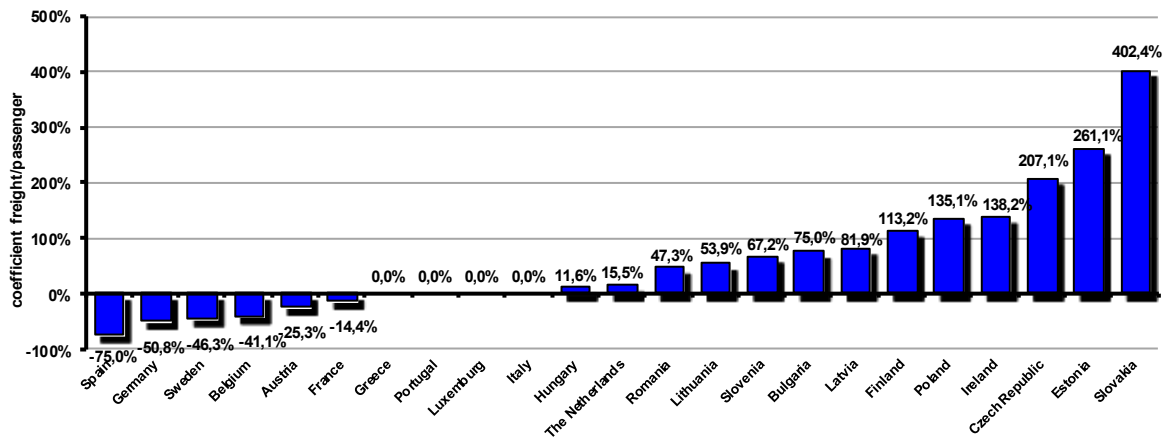
/Source: Prepared by UTK on the basis of RMMS questionnaire and Rail Liberalisation Index 2011/



Taking into account the Polish level of access charges for freight trains it should be stated that it was over twice higher than in terms of passenger trains. In the highly developed countries, mainly of the Western Europe (e.g. Germany, France) the railway transport rates were close to the road transport – the policy of balancing the transport (lightening the burden on the road infrastructure). The relation price – quality is also the important issue, including: infrastructure technical quality and speed on the line, which translate into transport perfor-

mance regularity, punctuality and timeliness. It should be pointed out that in terms of the aforementioned issues, the Polish infrastructure considerably differs from the majority of countries, mainly from the ones with the high level of railway market liberalisation. Taking into account the quality coefficient (price for access to railway infrastructure – average speed of transport performance) the above indicator was over three times lower in Poland than in Germany.

**Coefficient of the rates for freight and passenger trains in the EU countries**



*/Source: Prepared by UTK on the basis of RMMS questionnaire and Rail Liberalisation Index 2011/*

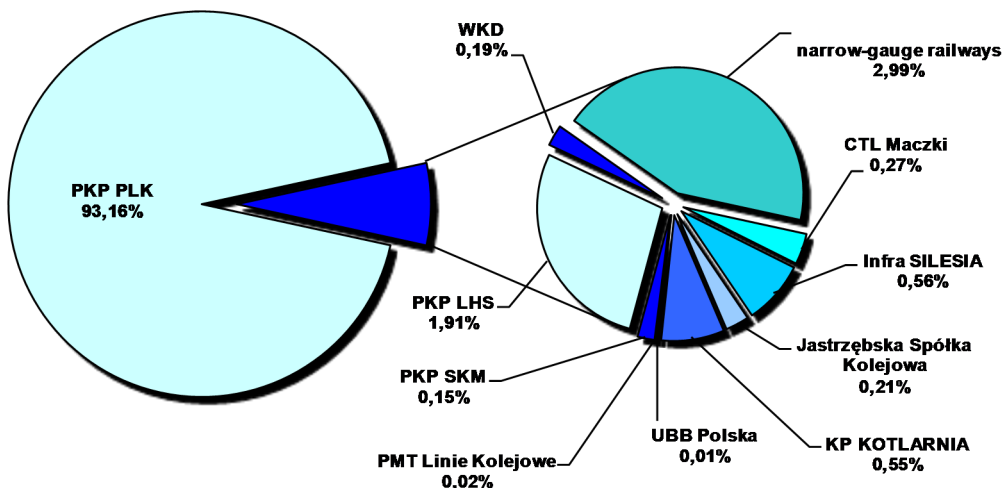


# Polish railway infrastructure managers

At the end of 2011 there were 10 entrepreneurs managing the railway infrastructure, with 7 companies providing only this kind of services including: PKP Polskie Linie Kolejowe S.A., Infra SILESIA S.A., Kopalnia Piasku Kotlarnia – Linie Kolejowe Sp. z o.o., Jastrzębska Spółka Kolejowa sp. z o.o., CTL Maczki –Bór S.A., UBB Polska Sp. z o.o., PMT Linie Kolejowe Sp. z o.o.. Additionally, the company PKP SKM in Trójmiasto Sp. z o.o. (in Tri-City) as the only one performed at the same time both the role of the railway undertaking and infrastructure manager of generally available railway infrastructure. The remaining two enterprises, including Warszawska Kolej Dojazdowa [Warsaw Commuter Railway] Sp. z o.o. and PKP LHS Sp. z o.o. (owning exclusively the 1520 broad gauge line) combined the function of the railway undertaking and infrastructure manager but they did not grant access to their own

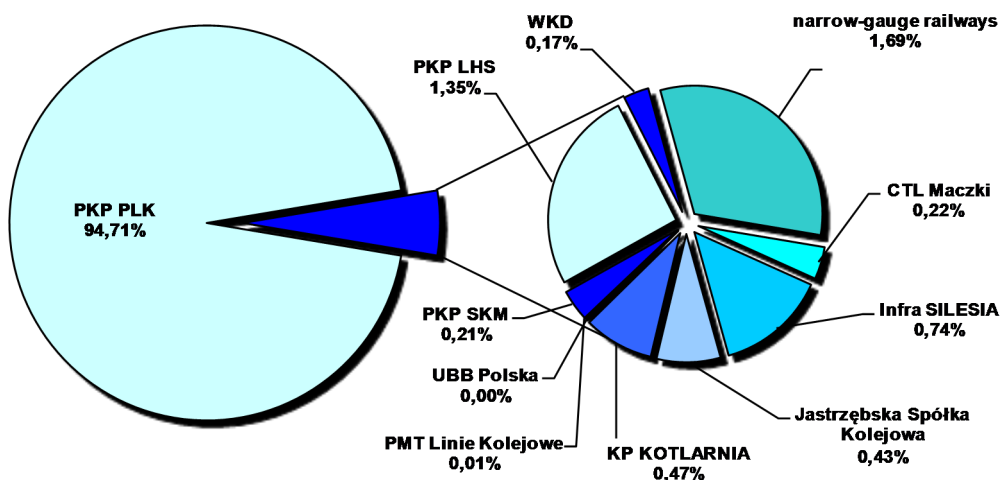
infrastructure for other railway undertakings. On the narrow gauge lines there were 22 railway undertakings performing transport and combining the services function (mainly passenger transport) and function of the user/owner of the infrastructure. In terms of the length of railway infrastructure in operation, the largest share at the end of 2011 belonged to PKP PLK company – 93.16%. The share of other managers was insignificant, excluding the narrow gauge railways (with the share of 2.99%), the largest share belonged to PKP LHS – 1.91% (only the broad gauge line) and Infra Silesia as well as KP Kotlarnia – approximately 0.55%. There is analogous share structure in terms of total length of the tracks in operation, PKP PLK – 94.71%, PKP LHS – 1.35%, Infra Silesia – 0.74% and KP Kotlarnia – 0.47%.

## The managers' share in terms of the length of lines in operation, state on 31 December 2011



/Source: Prepared by UTK/

## The managers' share in terms of the length of tracks in operation, state on 31 December 2011



/Source: Prepared by UTK/

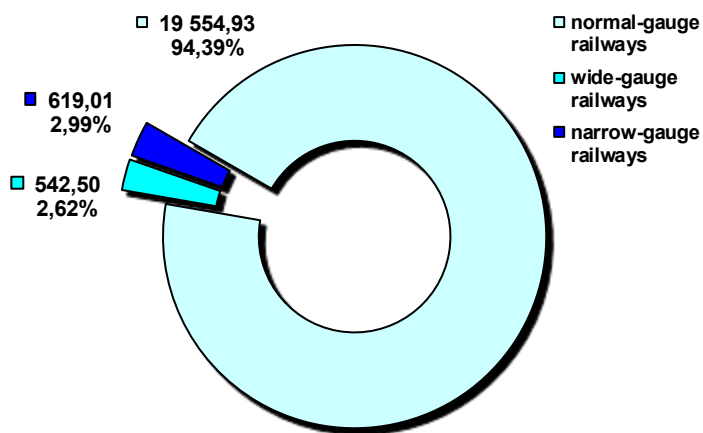
# Polish railway infrastructure managers market structure



The length of railway lines in 2011, operated by all railway managers, including the broad and narrow gauge railways, amounted to 20,716.44 km. In comparison to the preceding year, the total length of the railway network diminished by 54 km. In the total number there were 619 km of the narrow gauge lines with the gauge narrower than 1435 mm. Their length comparing to the preceding year diminished by 10.7% (74 km). The total length of the railway lines operated by the main infrastructure manager PKP PLK slightly increased by 0.12% and it amounted to 19,298.93 km at the end of 2011. In the total length of the Polish infrastructure (of all managers) – there were 542.5km 1520mm gauge lines. In the general volume of the Polish railway network there were 94.39% of standard gauge lines. Similar to the year 2010, there were approximately 2.6% of railway lines with the 1520mm gauge. Their length consisted of two railway managers lines: PKP LHS Sp. z o.o. – 394.6 km and PKP PLK – 147.8 km. Narrow gauge lines had a total length of 619 km (73.9 km less than a year ago) which constituted 2.99% of the whole lines in operation in Poland.

In 2011, 21,735 km of railway lines were managed by the PKP PLK company, by 267 km less than in 2010. In this number, there were 2,436.4 km (11.2%) of lines excluded from operation. The company as the only one managed the infrastructure of the state importance which at the end of 2011 constituted 59.6% of all lines in operation. Their length slightly increased and amounted to 11,496 km at the end of 2011. PKP SKM company performing transport in Tri-City agglomeration, delivered both the transport services as well as the tasks dealing with managing and granting access to railway infrastructure

## Exploited railway lines - 31 December 2011



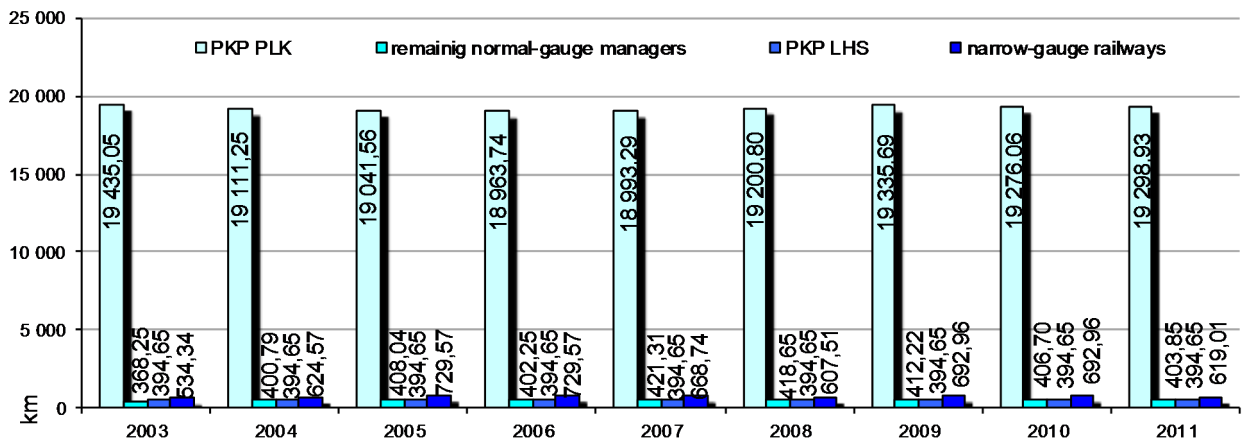
/Source: Prepared by UTK/

for the railway undertakings. The company had in its operation and management the 31.1 km standard gauge line section. The network of this infrastructure manager is totally electrified. The PKP LHS company operated 394.65km of 1520mm gauge lines. The access to the infrastructure held by this infrastructure manager is not granted to other railway undertakings.

The remaining standard gauge infrastructure managers (excluding PKP companies), including: Infra Silesia, KP Kotlarnia, Jastrzębska Spółka Kolejowa, CTL Maczki-Bór, UBB Polska, PMT and WKD managed and operated 372.8 km of railway lines in total (by 2.8 km less than in 2010). The largest length of the railway infrastructure (line infrastructure) was held by the following companies: Kopalnia Piasku "Kotlarnia" – Linie Kolejowe – 114.7 km and Infra Silesia – 115.4 km. The length of narrow gauge railway lines under the management amounted to 969.5 km. The length of electrified railway lines in operation by all infrastructure managers in Poland amounted to 11,882 km (by

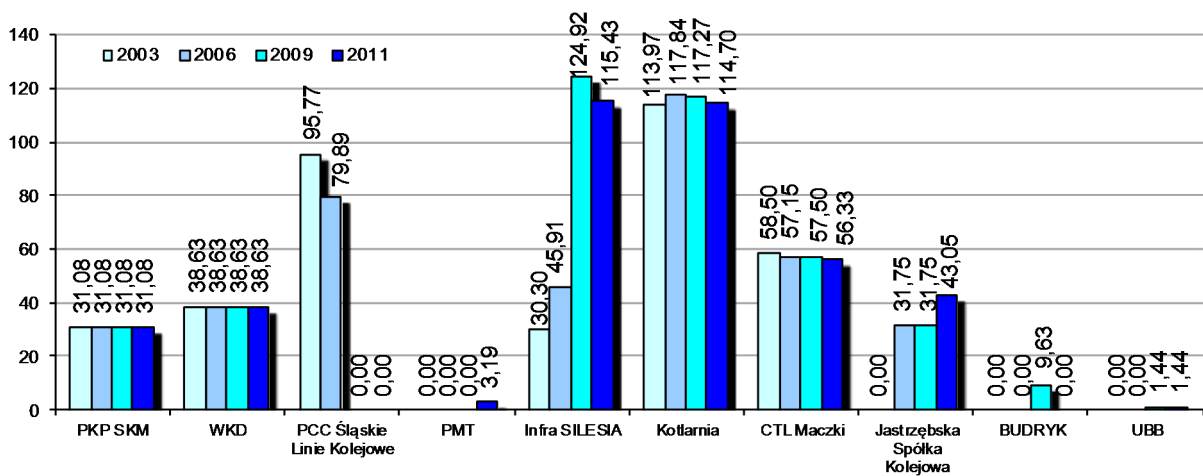


### Length of railway lines in operation



/Source: Prepared by UTK/

### Length of railway lines in operation according to infrastructure managers (excluding PKP PLK)

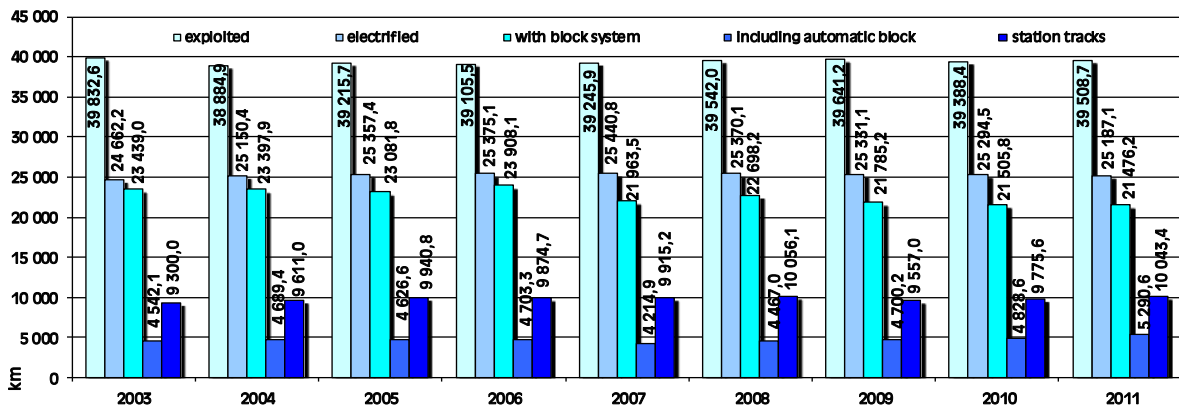


/Source: Prepared by UTK/



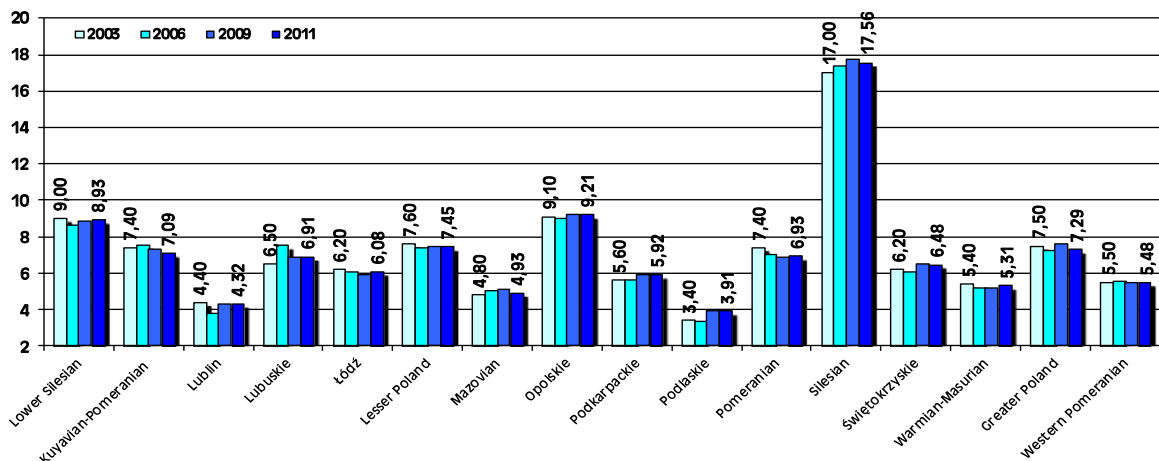
32 km less than the year before), which constituted 57.3% of the total length of the lines. The infrastructure managed by the PKP Group companies (including PKP PLK and PKP SKM in Tri-City) constituted nearly 99.5%. Total length of the tracks operated on the lines of all infrastructure managers in 2011 amounted to 39,509 km (by 120 km less), including the electrified lines – 25,187 km (decrease by 107 km). Total length of railway station tracks amounted to 10,043 km, tracks with block system – 21,476 km, including automatic block – 5,290 km. Total number of railway station tracks of all infrastructure managers amounted to 20,640 pieces. Number of switch circles – 2,529. Density of railway network in particular regions measured with km of lines per 100 km<sup>2</sup> has not considerably changed between 2003-2011. In 2011 it was at the level of 3.91km/100 km<sup>2</sup> in Podlaskie region up to 17.56km/100 km<sup>2</sup> in the Silesian region region. At the end of 2010 the national average amounted to 6.63 km/100 km<sup>2</sup>.

### Length of railway tracks



/Source: Prepared by UTK/

### Density of railway network in Poland (km/100km<sup>2</sup>)



/Source: Prepared by UTK/

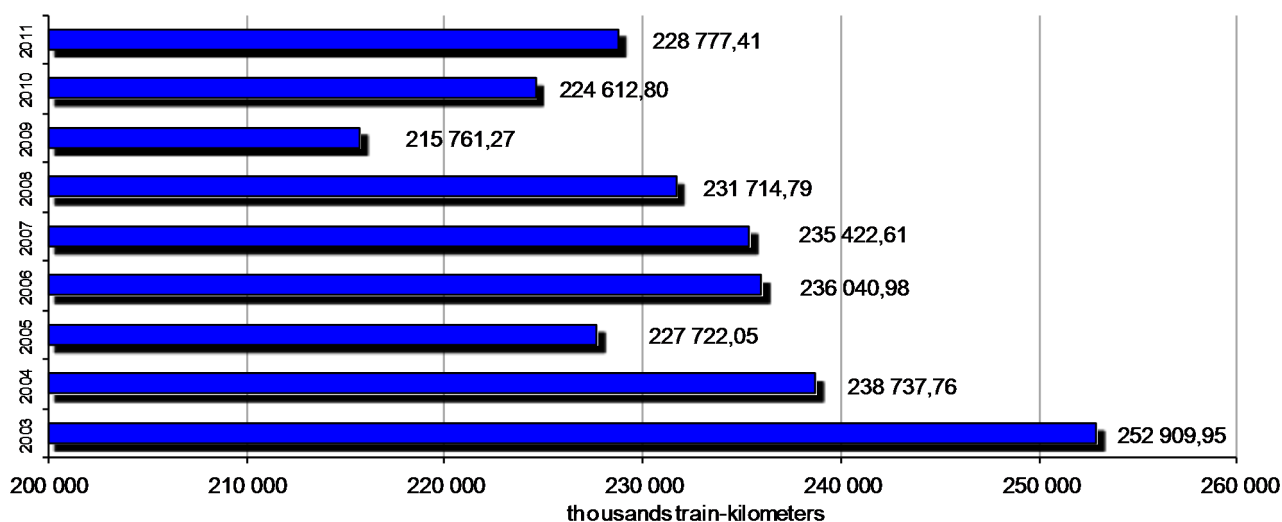
# Granting access to the Polish railway infrastructure for railway undertakings

In 2011 there were eight infrastructure managers performing services dealing with granting access to the railway infrastructure for railway undertakings. Seven entrepreneurs performed only this activity. PKP SKM in Tri-City, as the only one, performed both the function of railway undertaking as well as the infrastructure manager of generally accessible railway infrastructure. The PKP PLK company remains the main and the biggest infrastructure manager on the market of granting access to railway infrastructure.

In 2011, all the infrastructure managers sold in total 2,784,000 paths of a total length of 228,800,000 km. Their total length increased by around 4.2 million km (1.9%). The PKP PLK company had the prevailing position

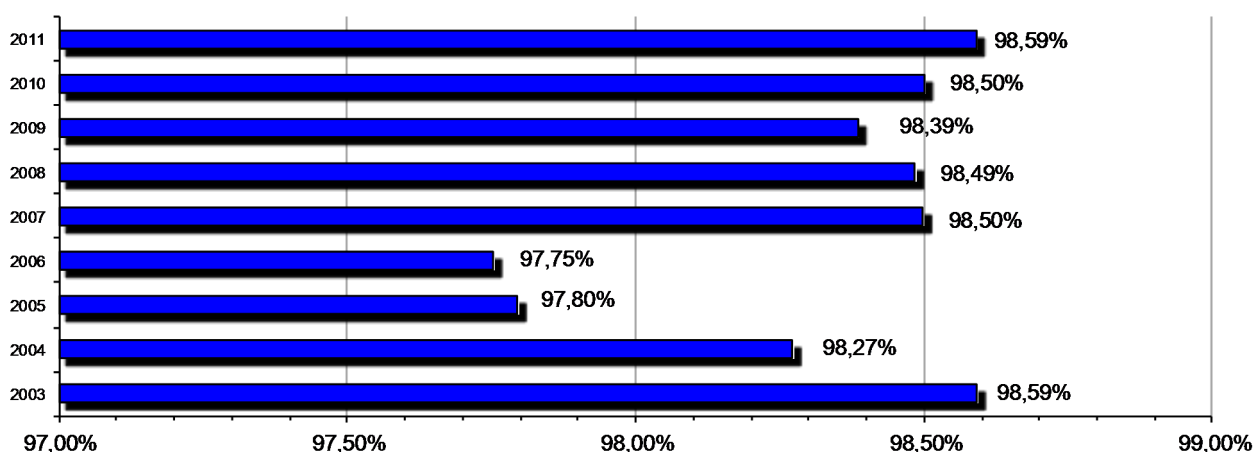
on the market of infrastructure managers. The infrastructure manager sold 2.5 million paths of a total length of 225.5 million kilometres. Most of the performed paths were the ones submitted to the annual timetable which in PKP PLK company (71.6% of all activated paths). There were nearly 1.5% of paths performed 'ad-hoc', i.e. the paths not submitted to the annual or individual timetable. At the end of 2011, the PKP PLK company's share in the market of granting access to railway infrastructure and sale of the paths, measured with the operation performance on the railway network (in terms of train-kilometres), amounted to 98.6%. It should be noticed, that in recent years, the PKP PLK company's share did not considerably change and oscillated on the similar level of

## Length of paths sold by infrastructure managers



/Source: Prepared by UTK/

## Share of PKP PLK in terms of length of realised paths



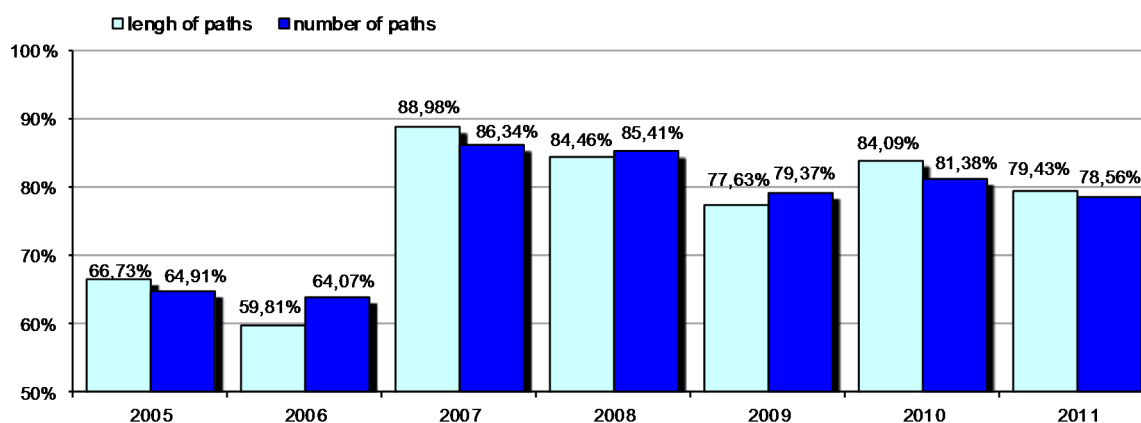
/Source: Prepared by UTK/

97.5-98.5%. Taking into account the remaining infrastructure managers, the biggest number of paths was performed by PKP SKM in Tri-City, totally 104.2 thousand (10.5% more than in 2010). It should be noted that this number includes 82.5 thousand paths performed for the own transportation needs. The total length of paths amounted to 2.1 million km, by 0.8% less than in the preceding year. At the end of 2011, the company's share in the market of granting the access to railway infrastructure amounted to 0.94%. The share of the remaining infrastructure managers, measured with the length of the sold paths, was not significant and amounted in total to 0.47%.

In 2011, the railway undertakings ordered 3.4 million paths (4.6% more than in the preceding year) of a

total length of 289 million km (increase by 7.8%) submitting them to the annual and individual timetables. Comparing to the total number and length of the purchased paths, the coefficient of using the paths amounted to 78.6% and 79.4% correspondingly. Comparing to the preceding year, the coefficient of using the paths decreased by 2.8 and 4.6% respectively. The definite increase of performance, taking place in 2007, was caused in the material part by the fact that the infrastructure managers introduced the reservation fee for ordered paths which were not used by the railway undertakings. The coefficient decrease in 2011 was caused by the change of growing dynamics in the freight transport in the second half of the year.

**The share of sold paths in the general number of ordered paths by railway undertakings**



/Source: Prepared by UTK/

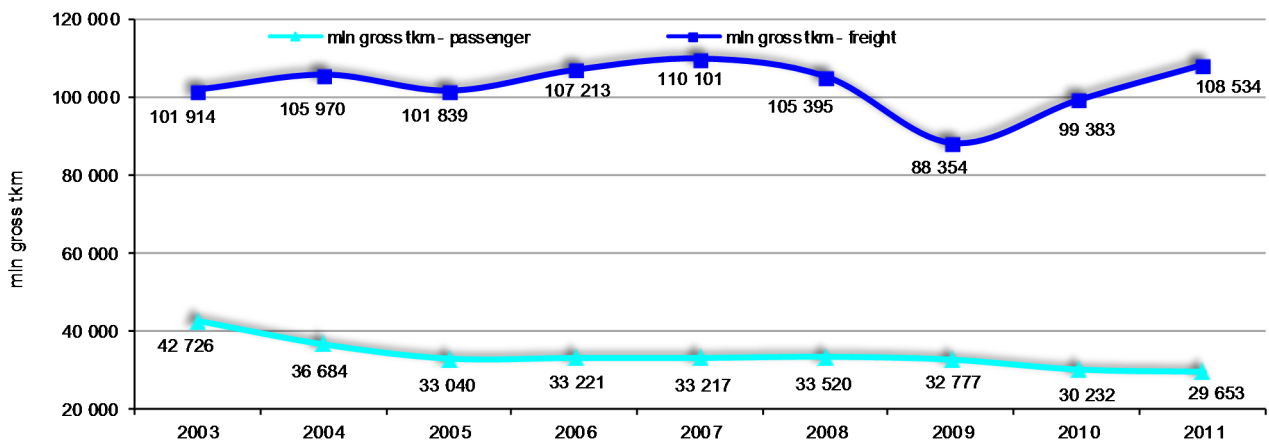




In 2011 there was gross transport performance made on the railway infrastructure network equal to 138.2 billion tonne-kilometres, what comparing to the preceding year constituted the growth by 8.6 billion tonne-kilometres (6.6%). The performance in gross tkm in transport of goods constituted 78.5% (1.8% more than in 2010), the remaining part was performed by passenger railway undertakings – 29.6 billion gross tonne-kilometres altogether (21.5%). The average load of one kilometre of the line in 2011 amounted to around 6.7 million gross tonnes, by 0.5 million more than in 2010. The increase concerned mostly the freight transport. Calculating per

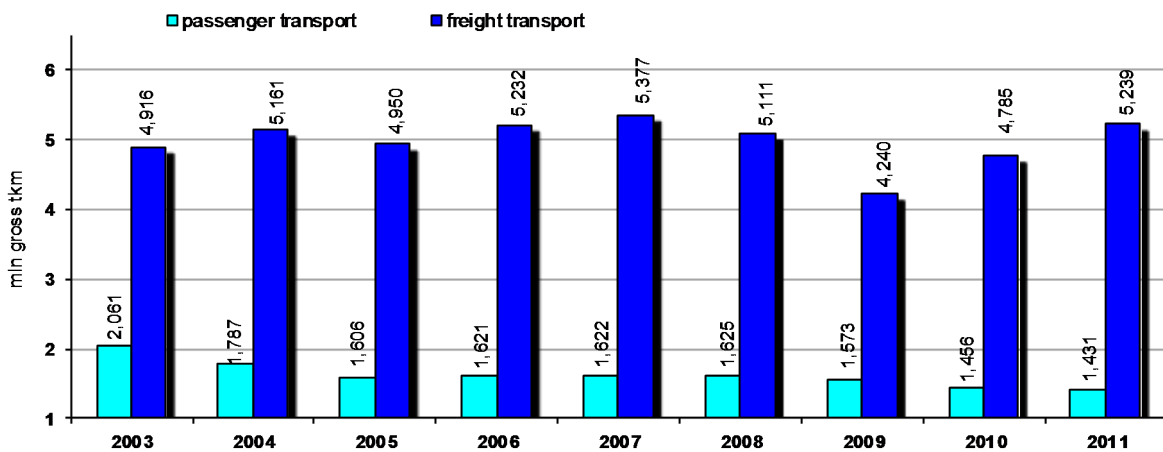
one kilometer of the line, the railway undertakings made gross transport performance larger by 454 thousand tonnes. In 2011, the average load for this type of transport amounted to 5.239 million gross tonnes per one kilometre of the line. In the passenger transport this coefficient amounted to 1.431 million tonnes per kilometer. It should be pointed out that in recent years there is a slight falling tendency in terms of passenger transport, mostly due to activating lower number and lighter trains e.g. in regional traffic (with the use of railbuses and lightweight railway vehicles) and shorter trains sets in interregional traffic.

#### Infrastructure load – volume of transport performance (million gross tonne-km)



/Source: Prepared by UTK/

#### Load of km of railway line by transport performance (million gross tonne-km/per 1 km of the line)



/Source: Prepared by UTK/



# Charges for access to the Polish railway infrastructure

At the end of 2011, there were 10 entrepreneurs dealing with railway infrastructure management, including 7 ones which performed only this type of activity. PKP LHS company, which operated the line of 1520 mm gauge did not grant access to its own infrastructure for other railway undertakings. PKP SKM in Tri-City as the only one performed the function of railway undertaking and manager of generally accessible railway infrastructure. At the end of 2011, eight infrastructure managers were obliged to submit the unit rates of access charges to be approved by the President of UTK.

Access charges paid by railway undertakings for the benefit of infrastructure managers in exchange for the possibility to use infrastructure under their management, are calculated pursuant to the legal provisions as the product of the performed services and unit rate. Draft of unit rates of charges (basic and additional ones) is submitted by the infrastructure manager to be approved by the President of UTK within the term of 9 months before the timetable enters into force.

The system of unit rates calculation for 2011 was based on the provisions of the Railway Transport Act and the Regulation of the Minister of Infrastructure on the condition of access and use of the railway infrastructure. The access charges are calculated with the "ex ante" principle. i.e. basing on the data planned for future periods – planned costs of granting access to railway infrastructure.

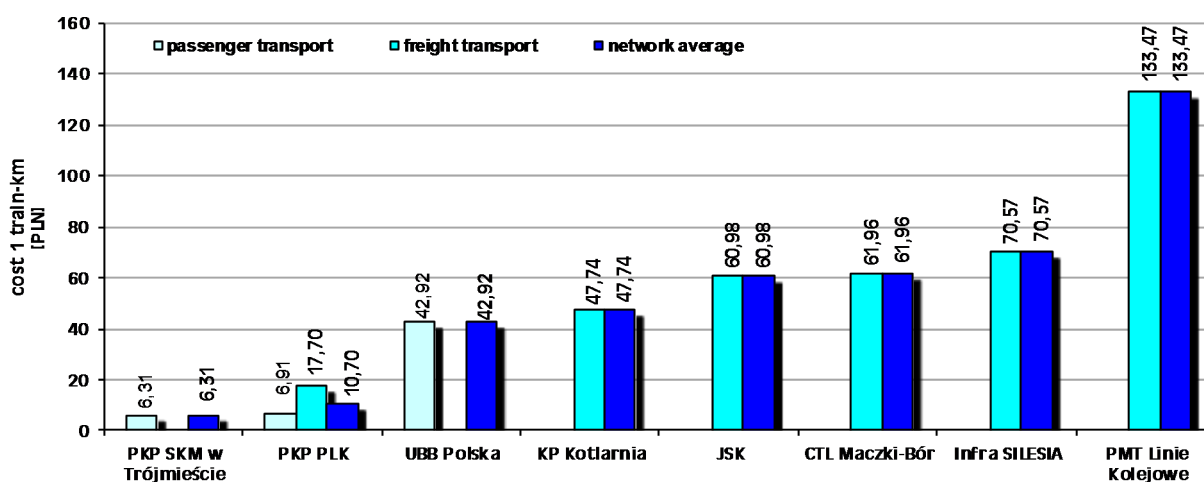
The President of UTK examines the compliance of unit rates of access charges calculation in the submitted

draft with the principles as set forth in the Act and Regulation. Then, the President of UTK issues the administrative decision approving or refusing approval of the rates. It should be underlined that pursuant to the provisions of Article 22 par. 8 of the Railway Transport Act, the President of UTK shall refuse approval of the submitted draft only when the draft was prepared with violating the provisions set forth in Article 22 par. 2-6, Article 34 and secondary legislation under Article 35 of the Act. The Office of Rail Transportation can verify application of the unit rates 'ex post' through controlling the correctness of the charges calculated on their basis. UTK exercises this right during periodical control at the infrastructure managers or commencing the administrative proceedings ex officio.

Below, there is a presentation of the value of average cost for access to the infrastructure managers railway lines in 2011 (the so called basic charge for minimum access to infrastructure).

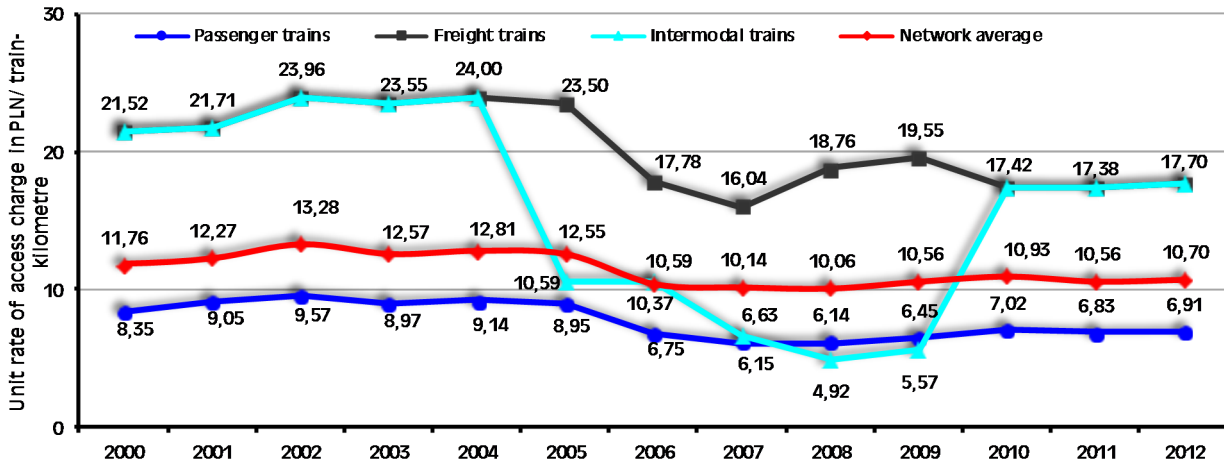
In the 2011/2012 timetable, the average value of rates for minimum access to PKP PLK infrastructure slightly increased from 10.56 PLN to 10.70 PLN (1.3%) per train-kilometre. For the freight trains the average cost amounted to 17.70 PLN (growth by around 1.8%), for passenger trains 6.91 PLN (growth by around 1.2%). In the freight transport, the main factor influencing the transport volume is the economic trend on the worldwide markets, including, the level of trade exchange between the countries and internal needs for transport of bulk goods, e.g. coal or aggregates.

**Average cost of train-kilometer for the minimum access to the railway infrastructure for the 2011/2012 timetable**



/Source: Prepared by UTK/

**Average cost of train-kilometre for minimum access to the PKP PLK infrastructure in 2000-2012**



/Source: Prepared by UTK/

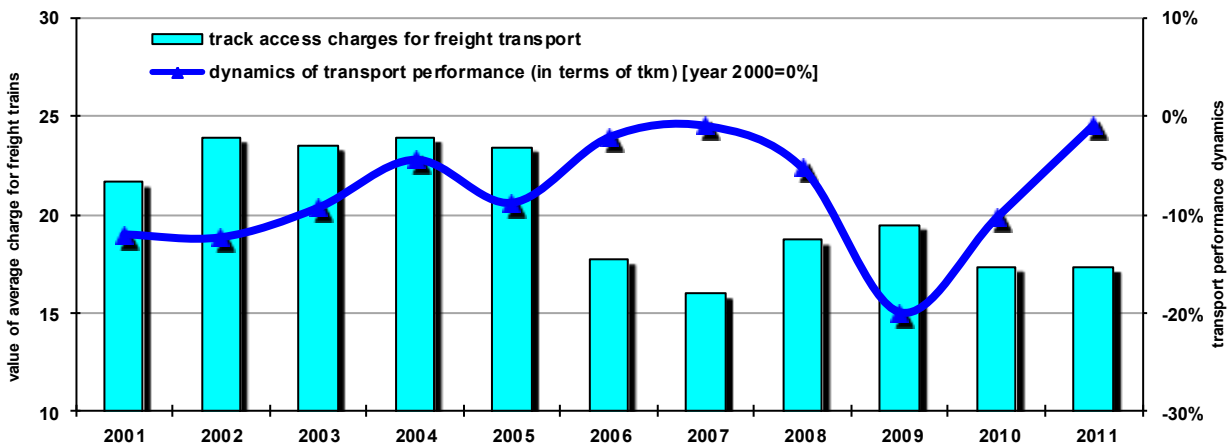
In the freight transport, in the years 2006 and 2007, there was dynamic increase of transport with the simultaneous decline of rates but caused mainly by large increase of trade exchange (increase of transport in international traffic amounted nearly to 16%). Despite maintaining the charges at similar level not exceeding 20 PLN per km, there was a fall in 2008-2009 caused by the worldwide economic crisis.

In the years 2010-2011 the dynamic growth of transport concerned mostly the demand for aggregate, sand, gravel generated by numerous infrastructure investments. In the freight transport, the nearest years can bring a slight fall of freight weight volume. The demand for coal transport by rail has been decreasing for a couple of years. The nearest years reflect also lower number of investment in the road and railway infrastructure,

resulting in the fall of transport of goods used for their construction. It should be pointed out that despite lack of significant correlation of the rates and volume of transport in annual or few years presentation, in the longer perspective the fall of access charges can bring the increase of importance and share of railway transport towards the remaining modes of transport.

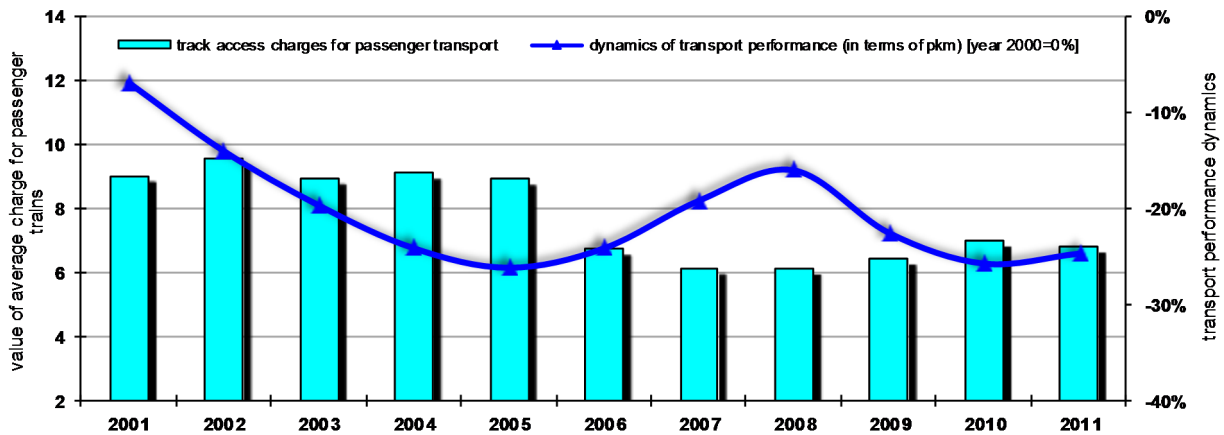
In terms of passenger transport, the decrease of transport volume, taking place up to the half of the preceding decade, was mostly caused by the development of individual transport. The most important factors influencing the passenger transport volume in railway transport are mostly economic factors, including among other things the development of economy, unemployment rate or fuel prices.

**Value of rates for access to the infrastructure against the dynamics of freight transport in 2001-2011**



/Source: Prepared by UTK/

**Rates for access to railway infrastructure against the dynamics of passenger transport in 2001-2011**



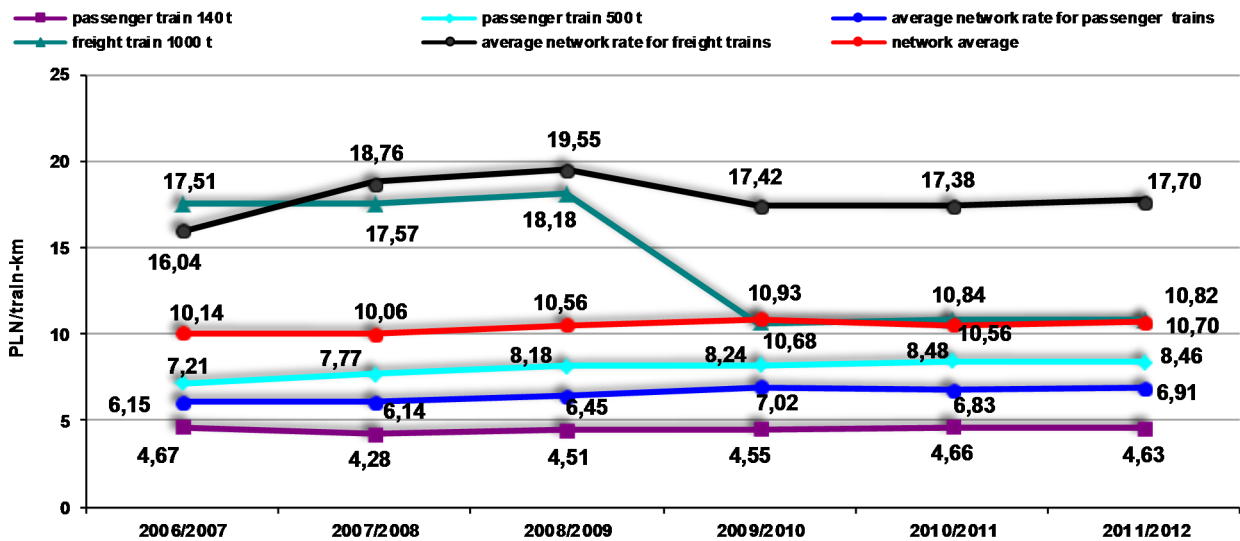
/Source: Prepared by UTK/

Pursuant to Article 33 par. 2 of the Railway Transport Act, the basic charge for the use of railway infrastructure shall be determined by the infrastructure manager considering the costs directly incurred by the infrastructure manager as a result of performing the train transport by the railway undertaking. The infrastructure manager shall diminish the value of total planned cost of access to infrastructure for the railway undertakings by the expected expenditures for repairs and maintenance of railway infrastructure coming from the state budget, local authority units and Railway Fund. The total cost of access to railway infrastructure planned for 2011 was diminished by the PKP PLK infrastructure manager by the

anticipated subsidy in the amount around 1,070 billion PLN, including 1,029 billion PLN for the minimum access to railway infrastructure and 41,35 billion PLN for the services of access to appliances connected with the train services, coming from the state budget and Railway Fund.

In 2011, in relation to the preceding year, there was a fall by 3.39% (from 10.93 to 10.56 PLN/train-km) of the average cost of train-kilometer for the minimum access to the PKP PLK railway infrastructure. The average rate decreased for the passenger trains by 2.71% (from 7.02 to 6.83 PLN/train-km) and for freight trains by 0.23% (from 17.42 to 17.38 PLN/train-km).

**Unit rate of the basic charge for the minimum access to railway infrastructure on the PKP PLK network in 2007-2012**



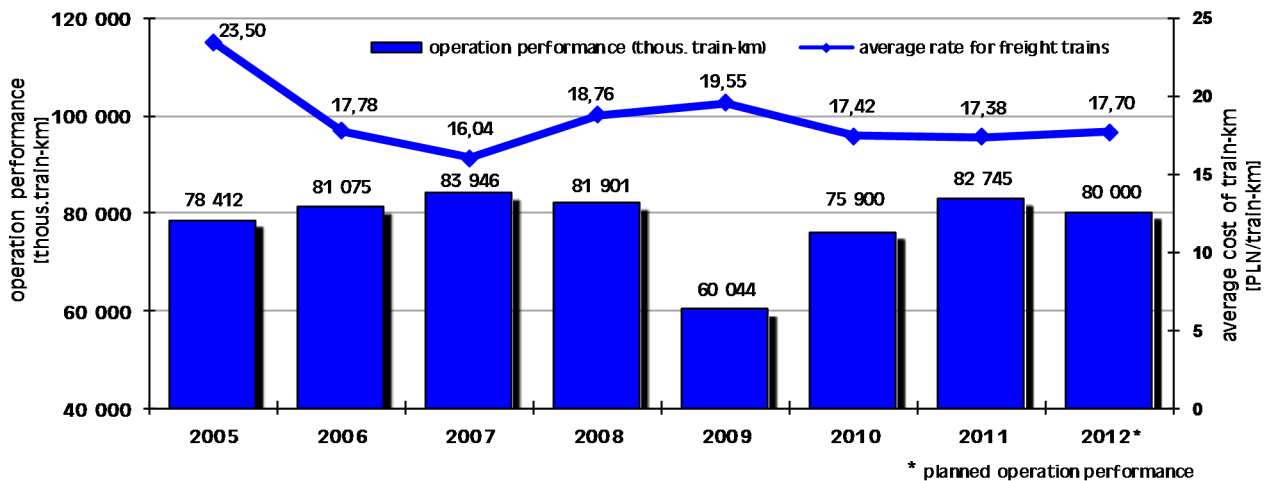
/Source: Prepared by UTK/

In 2011, the infrastructure manager PKP PLK S.A. granted, analogously as in the preceding year, 25% discount for trains performing intermodal transport. The principles of granting the discount were determined in the "Regulation of train paths allocation and use of the allocated trains paths by the licensed railway undertakings for the 2010/2011 timetable". It should be pointed out that the discount was granted only in the case of journey in block trains, where all the wagons were loaded. Journeys by the train set with at least one bulk wagon excluded the possibility to grant discount by the infrastructure manager for the railway undertaking. Due to this reason, obtaining the discount for part of intermodal trains was

strongly limited. In the 'Regulation for the 2011/2012 timetable' the infrastructure manager changed the principles of granting the discount allowing it also for block trains performing intermodal transport, where there were empty wagons adjusted for intermodal units transport. The discount is granted from the basic charge for the minimum access to the railway infrastructure in the part for the wagons with intermodal units.

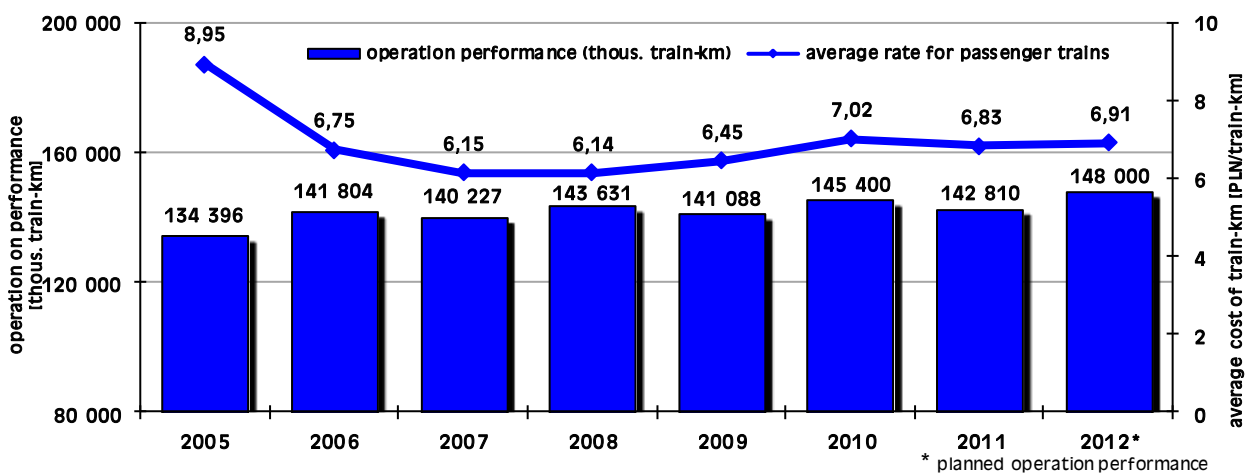
Below, there is a presentation of the average cost of train-kilometer on the PKP PLK infrastructure manager network for passenger and freight trains, against the length of paths granted in 2005-2011 and plans for 2012.

**Average cost of passenger-kilometer against the length of paths granted for freight trains on the PKP PLK network in 2005-2011**



/Source: Prepared by UTK/

**Average cost of passenger-kilometer against the length of paths granted for passenger trains on the PKP PLK network in 2005-2011**



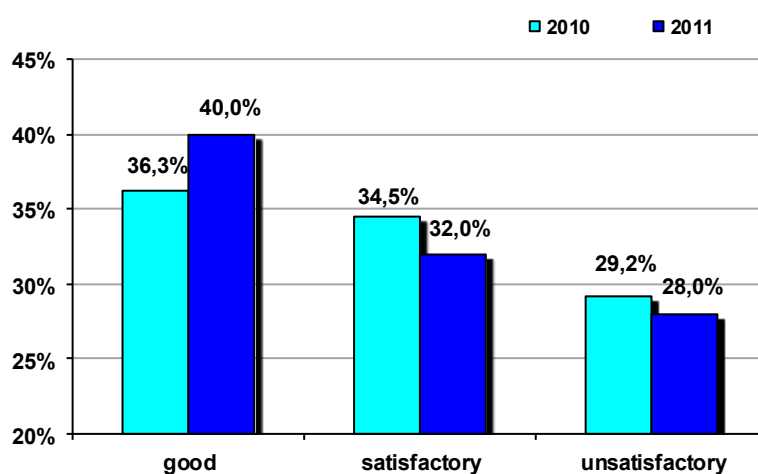
/Source: Prepared by UTK/

# Evaluation of the Polish railway infrastructure quality



Still, the condition of the Polish railway infrastructure (line infrastructure) is not satisfactory. At the end of 2011 only 40% of lines were in good condition, towards 36.3% in 2010. The remaining part of the lines required current repairs or complex modernization. Around 32% of the lines, 2.5% less than in 2010 were in satisfactory condition and 28% in unsatisfactory condition (1.2% less). Unfortunately, the infrastructure quality translates directly into the transport speed of the passenger and freight trains which currently is much lower than in the most of the European countries. In 2011 the average commercial speed in terms of freight transport on the lines of all infrastructure managers amounted to 25km/h. Three criteria were considered to evaluate the quality of infrastructure (technical condition of tracks). The "good" quality means the railway lines operated with the expected operation parameters requiring only maintenance works. "Satisfactory" quality means the railway lines in operation with diminished operation parameters, e.g. with lower timetable speed, speed limits at certain points, requiring, apart from maintenance works for keeping the operation parameters, current repairs dealing with replacement of damaged element of the track. "Unsatisfactory" quality means the lines with considerably limited parameters, e.g.: low timetable speed, considerable speed limits or diminished authorised axle loads, being qualified to the complex replacement of the railway surface.

## Condition and quality of PKP PLK railway infrastructure



/Source: Prepared by UTK/

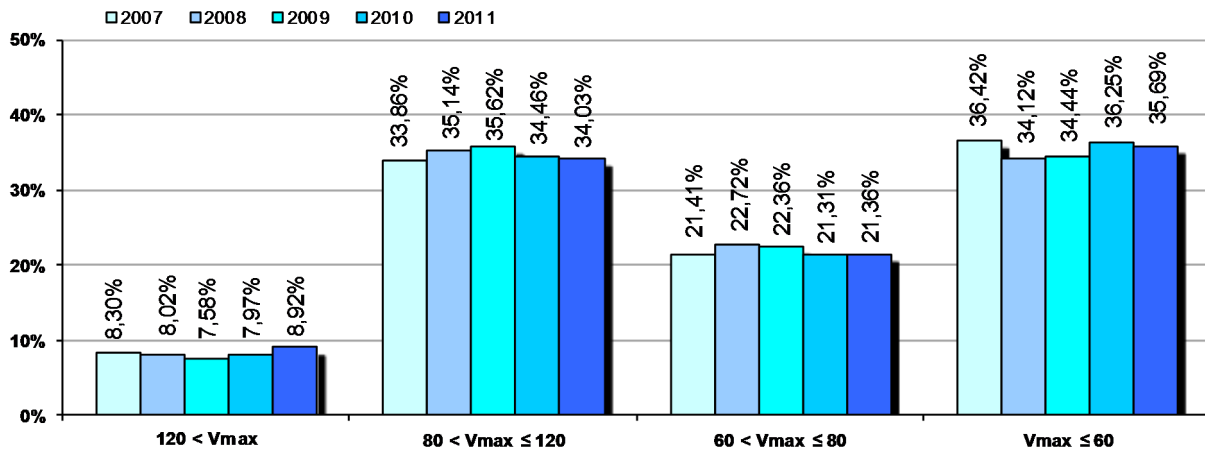
At the end of 2011, nearly 9% of the lines, by 1% more than the year before, were adjusted to perform transport with the speed above 120 km/h. There was a fall in terms of the length of the lines where the authorised speed did not exceed 60 km/h, from 36.2% to 35.7%. Whereas there was a slight increase of the length of the lines where the transport speed ranged between 60-80 km/h. In 2011 their share amounted to 21.4%, towards 21.3% in 2010. The share of railway lines with the authorised speed between 80-120 km/h, amounted to 34%.

The share of railway lines with the authorised axle load above 221 kN (kilonewtons) – higher or equal to 22.5 tonnes per axle - increased by 3.5% in 2011. At the end of the year they constituted over 45%. The share of the lines with the authorised load up to 200 kN per axle insignificantly diminished and amounted to 26.1%, around 2% less than in the preceding year. The lowest share belonged to the lines with the load between 210 and 221 kN – 12.2%.

In 2011, due to dynamic growth of freight transport, mainly heavy trainsets with raw materials, there was a significant growth of share of the lines, annual transport load of which was higher than 25 million tonnes per year. These lines constituted 17.4%, by 4.3% more than in 2010. Still, the largest share belongs to the railway lines on which the transport load did not exceed 3 million tonnes per year. Similar to the preceding years they constituted around 34%. It should be assumed, that the maximum number of trains on these lines did not exceed 3-4 couples per 24h. It reflects vast number of reserves and low level of use of the Polish railway infrastructure.

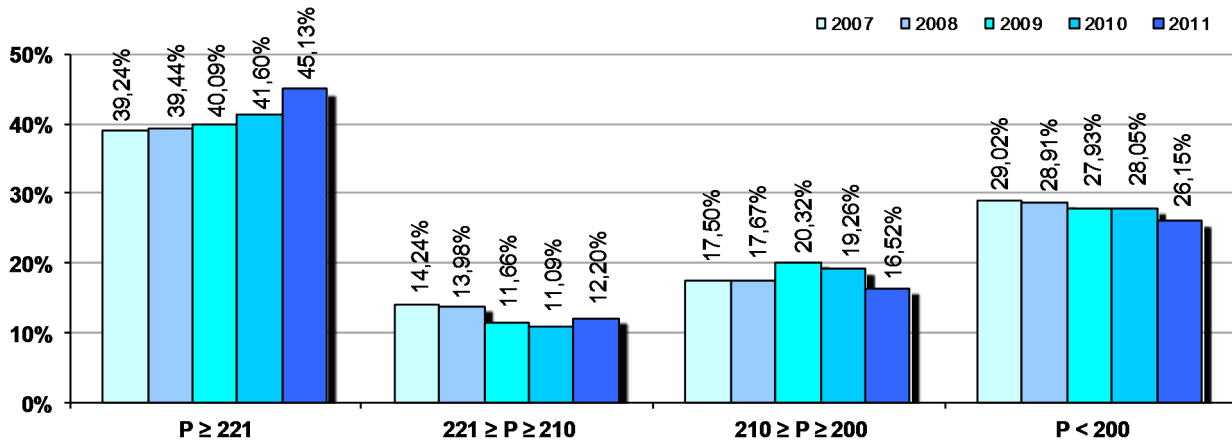
Still, the Polish railway infrastructure does not allow transport with the speed exceeding 160 km/h. There are only 9% of lines on which the transport speed oscillates at the level of 120-160 km/h. Currently, there are works ongoing which aim to adjust the chosen sections of the line to the transport speed exceeding 160 km/h.

**Share of the railway lines length according to the authorised maximum speeds**



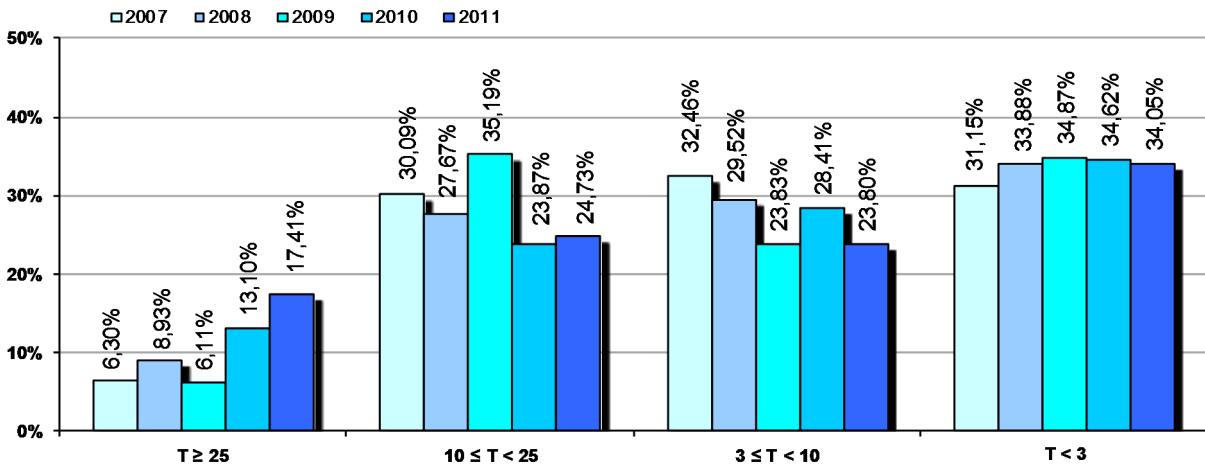
/Source: Prepared by UTK/

**Share of the railway lines length according to the authorised axle load**



/Source: Prepared by UTK/

**Share of the railway lines length in terms of the average annual transport load**



/Source: Prepared by UTK/

According to the infrastructure manager PKP PLK plans, on the chosen sections of the Central Railway Main Line (CMK) (Centralna Magistrala Kolejowa), and then on the whole line (up to 2015) the maximum speed for passenger trains will be risen up to the level of 200-220 km/h. It requires, among other things, liquidation of all level crossings and implementation of ERTMS system (European Railway Traffic Management System). Still, the condition of the railway infrastructure facilities, including the terminals with the access for railway transport is not satisfactory. Polish terminals considerably differ from the European infrastructure, mostly in terms of the size of store places, warehouses and capacity. What is also important, is the technical condition of terminals, low quality of terminals pavement and store places, reloading equipment and access roads. Currently, most of the terminals requires urgent extension, repair and modernization, including in terms of railway transport e.g. extension of loading and unloading track system allowing service of the 600m long whole trainsets. A disadvantage which considerably influences the volume of railway transport is lack of sufficient number of domestic and regional logistics centers with the access to railway, a few or a dozen, located within the area of the largest agglomerations. It currently causes considerable dispersion of the stream of transported loads and as a result, it makes it difficult for railway to get them (e.g. activate the fix whole-trains connections). Low technical parameters and shortage of specialized equipment of the railway infrastructure facilities are the reason of depreciation of railway transport, including the containers transport. Thus, intermodal transport becomes much lower competitive than in the other European countries, where the quality of the railway infrastructure facilities and lines is considerably hi-

gher, e.g. faster service in the terminal, higher commercial speed on the line and much lower rate for access to railway infrastructure (e.g. twice in France).

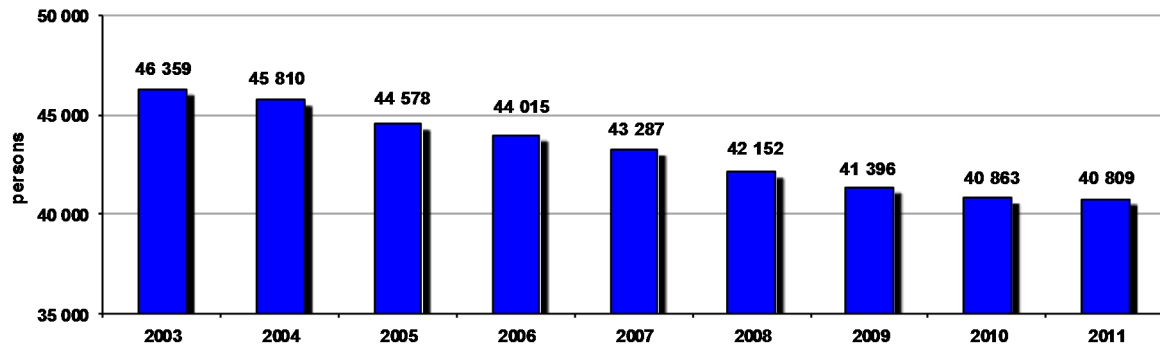


# Volume, structure and efficiency indicators of the railway market

In 2011, the slow process of reduction of the employees headcount in the infrastructure managers sector was still ongoing. At the end of 2011, the employee headcount was 40,809 persons, by 0.13% less than in 2010 and 12% less than in 2003. There were over 97% of the employees of the main infrastructure manager PKP PLK (39.6 thousand persons). In 2011, along with the increase of

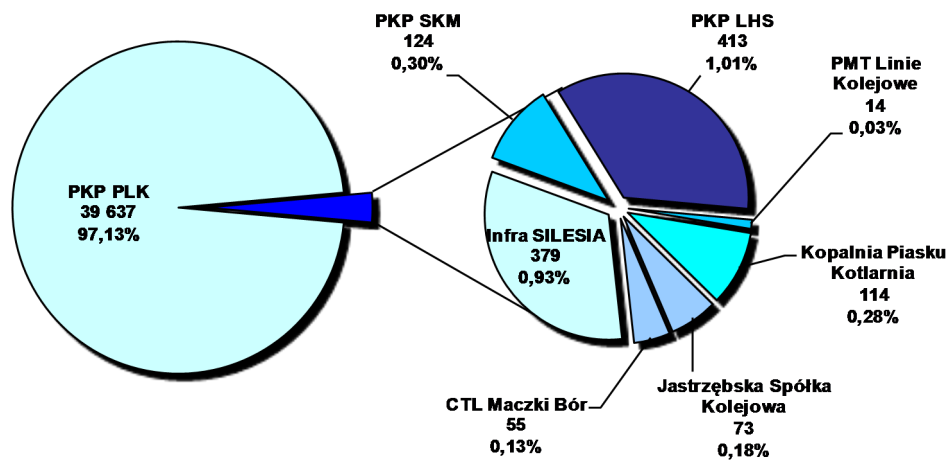
operation performance on the network, the infrastructure managers recorded the growth of income coming from granting access to the railway infrastructure. Comparing to 2010, the enterprises incomes increased by 6.4% (232 million PLN). In the same period, the operation activity costs increased by 11% (nearly 0.5 billion PLN).

## Employees headcount – infrastructure manager in the years 2003 – 2011



/Source: Prepared by UTK/

## Structure of employee headcount according to the infrastructure managers in 2011

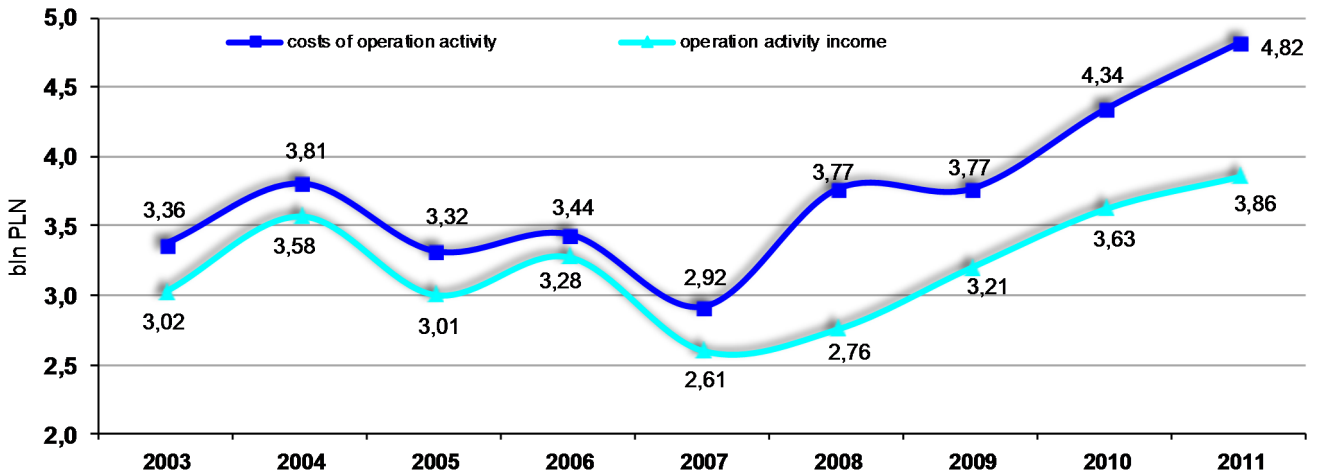


/Source: Prepared by UTK/





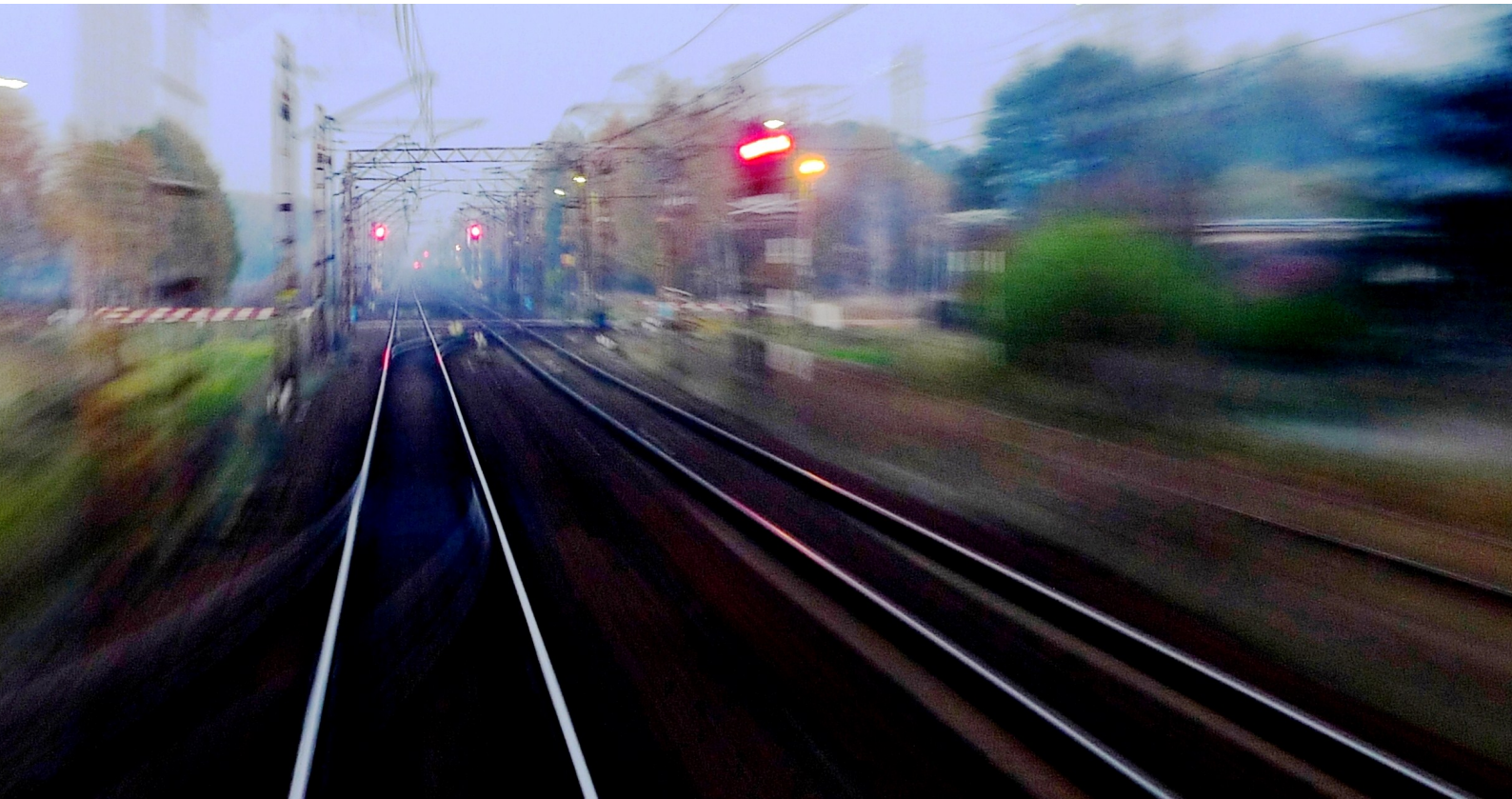
**Results of infrastructure managers performance (billion PLN) in the years 2003 – 2011**



*/Source: Prepared by UTK/*

In 2011 there was insignificant growth of the coefficient characterizing the efficiency of the infrastructure managers performance, calculated as the volume of the operation performance per one employee. The value of this coefficient increased by around 2.3% comparing to 2010, mostly due to the increase of the performance on the network with the further reduction of employment. In 2011 there was a growth of the efficiency of particular infrastructure managers and the whole sector of the

market. The level of income per one employee increased from 89 to 95 thousand PLN. Taking into account the employment indicator per one kilometre of the line in operation it should be pointed out that it is still very high. In general, it amounted to 1.97 persons per one km of the line, the highest for PKP SKM company in Tri-City and PMT (3.99 and 4.39 persons/km).



## Conclusions

The role of the railways in the Polish transport system has been decreasing in recent years. The country, which due to geopolitical reasons was equipped with one of the most dense railway network in Europe, went through the systemic transformation, which in a natural way, particularly visible in the nineties, resulted in dynamic decrease of railways' share in relation to road transport. At the same time, the highest degree of liquidation and degradation of railway infrastructure in Europe was observed, including mostly the railway infrastructure (line infrastructure). This type of occurrences were not favourable for increase of railway transport importance, even more, that the reverse tendency was observed for years in the case of road infrastructure. Dynamic development of this mode of transport was an attractive alternative for railway, among other things due to better accessibility or possibility to deliver the services in door to door system. Despite the fact, that the competitiveness of road transport did not always base on the price factor, the functionality factor was the one which prevailed. Development of economy was determined by fast and reliable transport whereas the railway transport not al-

ways could meet such requirements, mostly due to quality reasons, low commercial speed and numerous delays resulting from, among other things, capacity, e.g. "bottlenecks". Railway was losing both the goods as well as passengers, making this mean of transport marginal for years. In terms of the falling dynamics of the passenger transport volume which took place in the last couple of years, the optimistic may be the fact that there was a reverse tendency observed and a slight – 1% increase of number of passengers in 2011. This tendency was mainly caused by increased regional traffic, for short distances (around 1.4% passengers more comparing to the preceding year), what can prove that the railway plays more and more important role in commuting to work and schools in agglomerations and within the area of big cities. What is also important, is the improvement of the quality, punctuality, accessibility as well as intra and intermodality of railway transport. In agglomerations, where the railway is efficiently connected into the urban communication system, there was an increase in car-parks situated nearby the railway stations and stops (in a 'park and ride' system) as well as the offer of joint ticket was





prepared connecting various forms of transport.

What should also be noticed is the dynamic (11%) increase of number of passengers in international traffic taking place the following year in a row. It should be pointed out that still the share of this sector in the whole railway market is insignificant. At the end of 2011, similar to the preceding year, it amounted only to 0.9%. In the same period, interregional transport, measured with the number of passengers, noted a fall equal to 1.3%, which reflects the situation which took place in the most of the European countries (e.g. in Germany 2% fall of long distance transport, towards 5% increase of short distance transport in regional traffic). The fall of transport in this sector of the market takes place mainly with the simultaneous increase of air transport and individual transport by car. Attention should be paid that the dynamics of decreasing the general number of passengers in the long distance transport sector was influenced by numerous modernization works on the railway infrastructure which considerably lengthen the time of travel between the biggest cities in Poland. In Poland, taking the current structure into account, railway must have an attractive price offer and much higher quality of services, including a very important factor which is punctuality.

Despite the railway importance diminishes in terms of long distance transport, the growing tendency of general volume taking place in 2011 should be maintained. At the end of 2012, the number of passengers in relation to the preceding year may increase even by 10 million (around 4-5%) and amount to 275 million. The growth of transport performance may be slightly lower than in 2011 and may amount to around 1%.

Year by year, the improvement of passenger service quality in railway transport can be noticed. Starting from 2010, there was a change in the role of the President of UTK, who is not only the market regulator but also stands on guards of observing the passengers' rights in railway transport.

President of UTK's initiative, the actions are taken up aiming indirectly and directly at improvement of safety and quality of transport services performed by the railway undertakings. There were actions organized on a large scale to improve the service of disabled passengers and persons with reduced mobility. These actions were supported by the Team for Disabled Persons appointed in 2011 which in its powers has a right to take autonomous actions. The Team's works included among other things execution of disabled persons' rights and discussed the problems of adjusting the railway stations and facilities to their needs. In the nearest time, the President of UTK is going to take next actions aiming at broadening the passengers knowledge concerning their rights as well as the

obligations imposed on the entities participating in the passenger railway transport. The matter which should be treated with priority is the change of the railway undertakings and railway stations managers' awareness in such a way that they consider the fact that the provisions of law binding in the domestic legislation are only the minimum necessary to be respected. There is a need for any actions improving transport of passengers as well as ensuring the highest standards of comfort, safety, hygiene and service should be undertaken.

In the freight transport, similar to the preceding year, the market recorded dynamic increase of the volume of transported weight and transport performance. In relation to the preceding year it amounted to 5.9% and 10.5% respectively. In 2010, the increase was mainly influenced by higher trade exchange between the countries, and, thus, large demand for international transport. In 2011, the total volume of railway transport was influenced mainly by transport inside the country. The highest dynamics in the amount of 50% was noted by transport of raw materials, mostly aggregates, sand and gravel. Still, contrary to the European countries, the Polish railway transport is based on the bulk transport. The largest share in the market belonged to hard coal transport but its volume has dynamically decreased for a couple of years. It decreased by 5.5% towards the preceding year and nearly by 34% in relation to 2006. Still, despite the dynamic increase, the share of highly-processed goods transport on the market is insignificant. Whereas the dynamic, over 30%, increase of intermodal transport volume should be noticed. In 2011 there was a record number of unit loads transported, in total nearly 500 thousand items, over 40% more than in the preceding year. This sector's share in the railway transport market (measuring with the transport performance) increased by nearly 0.7% comparing to 2010, gaining the total result equal to 4.5%. In this type of transport, still the potential of transit

location of the country is not used, mostly the east-west transport, including the whole wheelsets and semi-trailers and vehicle swap bodies. It is caused mainly by shortage of specialized rolling stock and railway infrastructure facilities not adaptable to this kind of transport, including the reloading infrastructure at the eastern border. In this case, multiyear programs of balancing and supporting the transport are needed, e.g. in the form of direct subsidies to the tonne-kilometer performed by railway or transported unit (vehicle) in the combined transport. Increasing the number of terminals and logistics centers with the access to railway infrastructure will be significant for the intermodal market development. Currently, there are considerable discrepancies in different regions of Poland, especially their insufficient number and quality in the eastern regions of Poland. The nearest years will bring a slight reduction of levels of freight transport by rail. Completion of most of the infrastructural projects (railway and road ones) will translate into the significant fall in demand for bulk goods transport used in construction industry (e.g. aggregate). Only in this group of goods, the decline of weight volume can amount to several dozen of percentage. At the end of 2012, the general volume of the market can oscillate at the level of 230 million tonnes. The decrease of value of transported weight and transport performance can amount even to 10%. Due to the above, the actions should be commenced aiming at using the network for highly processed goods transport e.g. in containers, including taking over part of the loads from the road transport.

One of the ways to reach this purpose is ensuring long term stability and anticipation of rates for access to railway infrastructure facilities and lines.

Further maintenance of preferences for intermodal railway undertaking is not without importance, including the discount for access to railway infrastructure in the amount of 25%. Important factor will be also increa-





sing the pace of infrastructural investments with the fast and effective use of the European Union funds. Despite the decrease of general volume of transport, intermodal market will be still characterized with considerable growing dynamics. At the end of 2012, the increase may even amount to 30-40%, in relation to the preceding year. According to the forecasts, railway undertakings can transport over 600 thousand unit loads. The total weight of the goods transported in the intermodal system can be close to or slightly exceed 7 million tonnes. Up to 2020, in terms of transport performance, this market sector's share can exceed the level of 10%. The pace of increase will depend mostly on the actions financially supporting the development of containers transport.

The largest problem having significant influence on the Polish railway transport development is insufficient condition of railway infrastructure being the outcome of lack of financing which as a consequence resulted in considerable marginalization both the passenger as well as freight transport towards the remaining modes of transport. Additionally, shortage of adequate rolling stock investments and vehicles technical condition getting worse cause that the quality of offered services much differ from the European standards. The railway is not able to compete effectively and in the most cases loses the battle for the customer. It should be underlined that despite slight improvement of the railway infrastructure quality in 2011, still 60% of the railway lines require current repairs or complex modernization. Apart from the low quality, there is also the problem of limited capacity of infrastructure resulting among other things from tracks closures and numerous 'bottlenecks'. In the situation where vast part of transport takes place on the low quality infrastructure, it translates into the transport performance speed which is considerably lower than in the majority of the European countries. The average commercial speed for freight trains did not change and amounted to around 25km/h at the end of 2011. What can

contribute to the further development of transport, is not only modernization of railway lines through increasing the technical parameters (including maximum speeds) but mainly the liquidation of infrastructure 'bottlenecks' e.g. within the region of Upper Silesia. Numerous investments in the railway infrastructure should depend on the development of the remaining modes of transport, including: maritime, road and air transport. Still, the weak connections between the modes may be hazardous for the railway. Intra and intermodality should be ensured, at the level corresponding to the market needs. The length of existing network of railway lines classifies Poland in the forefront of the European Union countries. Additionally, the location of the country creates enormous possibilities to develop the railway transport. Both the costs incurred by the State as well as the efforts of efficient use of the European Union funds will bring profits and savings both short-term (in the form of increased volume of transport) as well as the long-term (natural environment protection). Otherwise, the external costs of non-ecological modes of transport, currently successfully competing with the railway, at the end of the day will be incurred by the State and the society. These costs, apart from the ecological factor, will also be generated by accidents and lack of adjustment of railway infrastructure to transport big mass of goods. The railway as a transport mode, which provides transport of passengers and goods exclusively on the precisely defined routes, always strongly depends on the other modes of transport. Railway should be the part of the general structure of transport which should always constitute the self-regulating system. It is possible to ensure such a system only through effective and efficient policy of the State.

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