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Abbreviations

AETR – European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport

AGC – Agreement on Main International Railway Lines

AGR – European Agreement on Main International Traffic Arteries

CIS – Commonwealth of Independent States

EEU – Eurasian Economic Union

EATL – Euro-Asian Transport Links

ECMT – European Conference of Ministers of Transport

EDB – Eurasian Development Bank

EU – European Union

EurAsEC – Eurasian Economic Community

FPC – Federal Passenger Company

IARO – International Air Rail Organisation

IPEM – Institute of Natural Monopolies Research

IRU – International Road Transport Union

KTZh – Kazakhstan Temir Zholy

OSJD – Organisation for Cooperation between Railways

PGV – Rules for the Use of Freight Cars in International Traffic

SES – Single Economic Space

SME – Small and medium enterprises

SPC – Suburban passenger company

STS – Single Transport Space

SUEK – Siberian Coal Energy Company

TAR – Trans-Asian Railway

TER – Trans-European Railways

TEU – Twenty-foot equivalent units

TRACECA – Transport Corridor Europe-Caucasus-Asia

UNESCAP – United Nations Economic and Social Commission for Asia and the Pacific

UNECE – United Nations Economic Commission for Europe

UTLC – United Transport and Logistics Company

UWC – United Wagon Company

VNIKTI – Russian Institute of Research, Design and Technological Studies in Railway Rolling Stock

The following symbols are used in the report:

- (dash) – did not take place

... – data not available

0.0 – the figure is too small to be included in the calculation

Key Findings

1. Rail transport is a fundamental element of the transport system and a major economic sector in all member states of the Single Economic Space (SES). Over 150,000 km of SES railways haul goods domestically, internationally and as transit routes, and facilitate trade between SES countries and between the SES and third countries. Rail freight traffic in the SES exceeds the traffic of major railways in the US and is second only to China. Rail transport accounts for more than 43% of freight carried by all modes of transport in the SES. Of the SES states, Kazakhstan has seen the strongest growth in freight transport, a further indication of the country's dynamic economic development.
2. Volume of international transport accounts for more than 50% of total rail freight traffic in the SES; two thirds of this volume is carried on Russian railways. Exports make up more than 65% of international traffic. The market share and physical volumes of transit cargo have been growing steadily in the last eight years. According to OSJD, Russia and other SES countries transported 155.3 million tonnes of freight in 2013, equivalent to 27.6% of all international traffic transported by Russian railways. Fuel and energy products form the bulk of exports, together with mineral raw materials and chemical products. Rail freight traffic between Russia and other SES countries, including transit, increased by 11.8% in 2008–2013 to 155.3 million tonnes. Russia's exports to other SES countries increased by 13.2% over the same period.
3. Railways play an important role in passenger transportation because they provide access to remote areas and increase the mobility of the population. The role of SES railways in global passenger turnover is less significant than its role in freight turnover. In terms of passenger-kilometers, the SES ranks fourth after China, India and the European Union (EU). Railways account for just over 20% of total passenger traffic by all modes of transport in SES countries. Over the last five years, the railways' share of total turnover of passenger transport has decreased in all three countries, with the most significant decline in Russia (from 35% in 2007 to 25% in 2013). This is a result of passengers shifting to airlines for long-distance journeys and buses for suburban and intra-city travel. Suburban rail passenger transport in Russia is the sector which has seen the most significant decline in numbers in recent years.
4. In 2013, rail passenger traffic in SES countries totalled 1.2 billion people or 177.5 billion passenger-kilometres. Russian railways account for over 83% of all SES passenger traffic. However, in recent years, Russia's share of the market has decreased while Kazakhstan's has increased. The structure of passenger traffic differs significantly between the three SES countries. In Belarus and Russia suburban traffic makes up 81% and 88% of total volume respectively, while in Kazakhstan more than 69% of passengers travelling domestically are making long distance journeys, with less than 16% of passengers using suburban networks. International carriage by SES countries totalled 31.4 million people in 2013 (about 2.8% of total rail passenger traffic).
5. Structural reforms in the rail sector have strongly influenced rail passenger and freight transportation in the SES. The main objective of these reforms is to improve intra-sectoral competition and the competitiveness of railways in the market of transport services. To this end, measures are being taken to separate infrastructure and carriage, to liberalise access to rail infrastructure for private operators and to ensure non-discriminatory access to market for passenger and freight operators. The speed of reform differs between the SES countries. Until recently, the pace of reform was most vigorous in Kazakhstan: the country's market now encompasses not only rolling stock (wagon) operators, but also independent locomotive operators. In Russia, encouraging operators into the market has been more successful in the freight sector, while in the

passenger sector this is at an early stage of transformation. In Belarus, rail development strategies are totally different from the Russian and Kazakh models, and from the EU model. According to official documents, changes made in the rail sector in Belarus are not referred to as reform, but rather as modernisation pursued in accordance with state programmes.

6. Technically, SES railway infrastructure and rolling stock are, to a significant extent, obsolete. In Russia, the obsolescence of fixed assets in the rail sector increased from 14.4% in 2005 to 30.4% in 2012. SES railways lag behind the world's leading rail systems in many respects. Speed rail account for a very small proportion of passenger transport in the SES compared to other countries. There are no high-speed rail able to accommodate train speeds exceeding 250 km/h. For example, the average speed of a Sapsan train in Russia is 178 km/h, whereas the average section speed on China's 1,000 km Wuhan–Guangzhou high-speed line is in excess of 310 km/h and France's TGV trains can travel at an average 250–275 km/h. These technical and technological deficiencies make SES railways less competitive compared to other modes of transport for both freight and passenger carriage.

7. Competition in the Eurasian rail passenger and freight sectors takes three forms. Intra-sectoral competition refers to the competition between rail operators and between networks, where rail routes and corridors compete for freight and passenger flows. Inter-sectoral competition in the freight sector refers to the competition between rail and road transport and in the passenger sector between rail, air and road transport, including buses. Intra-sectoral competition will persuade passenger and freight customers to opt for more competitive carriers and routes (in particular, switching from conventional passenger trains to high-speed rail). Inter-sectoral competition will shift freight and passengers between modes of transport (to rail transport from other modes of transport or vice versa).

8. Competition between rail routes and corridors used for long-distance transport in Eurasia is largely focused on major arteries running east to west and north to south. Given that many countries' transport policies are prioritising an increase in freight traffic using their routes, competition between rail routes is, in essence, competition for transit flows between Eastern Asia, primarily China, and EU countries. The SES is crossed by 13 OSJD Europe—Asia rail corridors and nine Euro-Asian rail routes included in the UNECE EATL project. The competing corridors are: OSJD corridors 1 and 2, which connect Western and Central Europe with Kazakhstan, China and the Far East ports via Russia; and OSJD corridor 5, which links Central Europe to China via Ukraine, Russia and Kazakhstan. Freight tariffs play a significant role in infrastructural competition. For Russian railways, in particular, the tariff distance of transit via OSJD corridor 5 as it crosses Russia is significantly lower than the tariff distances of Russian sections in OSJD corridors 1 and 2.

9. The development of rail routes, and the SES countries' concerted efforts to attract freight and transit flows to the SES, are designed to even out competition between rail infrastructures, in particular where a certain section of the rail network, for example, has exceeded its capacity and is prone to bottlenecks because of the continuing growth of freight traffic in the 2010s. Attempts at debottlenecking and attracting freight flows were made as part of the Comprehensive Plan for the Development of Infrastructure of Highways and Railroads, devised in 2010–2011 by the Eurasian Economic Community (EurAsEC) with technical and financial assistance from Eurasian Development Bank (EDB). The plan comprised 142 national transport infrastructure projects, including 46 projects to develop railways and 45 projects to establish and enhance logistics centres. Practically all these projects will support the development of OSJD rail corridors and Euro-Asian rail routes crossing the SES.

10. Competition between road transport and railways, especially in the area of freight transportation, has become extremely intense in recent years. Advances in vehicle engineering, logistics technologies, introduction of energy-efficient, low-carbon and reliable trucks have made road transport more competitive, supported by the increasing role and number of small and medium enterprises (SMEs) in the economy who often require smaller shipments. The result has been an increase in the average distance of transportation by roads and an improvement in the financial performance of this sector, especially for more highly processed goods. In Russia and Kazakhstan, the average distance transported per tonne of freight has doubled in the last 22 years from 19.5 km to 39.4 km, and the length of road suitable to compete for road transport has quadrupled from 450 km to 1,800 km. The negative impact of this progress has been the growing traffic density on the road network, especially near big cities. Traffic congestion, worsened by the ever increasing use of private cars, has caused social damage, increased loss of time in passenger and freight transportation, and increased pollution.
11. The experience of the many countries around the world that have introduced state policies to optimise the use of different modes of freight transport is significant. The EU's experience, where transport policy is aimed at shifting freight flows to more energy-efficient and environmentally friendly modes of transport, is arguably the best example. The White Paper entitled Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System, published in March 2011[1], encompasses "A vision for a competitive and sustainable transport system". The vision includes shifting 30% of road freight travelling more than 300 km to other modes such as rail or waterborne transport by 2030. The target increases to more than 50% by 2050. The means to achieve the changes targeted in the policy include, inter alia, road and environmental charging and the development of multimodal transport.
12. Structural reform and market conditions have supported the emergence of new players in the rail market, primarily passenger and freight operators. One such company – a successful new venture in the passenger transport market – is Kazakhstan's Turan Express, which has a fleet of over 100 coaches and operates several domestic routes. Russia's most successful new company is Aeroexpress, which carries passengers between cities and major airports. In Belarus, intracity, suburban and regional traffic are developing thanks to the use of innovative rolling stock. Tulpar trains in Kazakhstan and Sapsan in Russia are making significant progress developing domestic speed passenger rail services. The experience of the SES countries confirms that the passenger sector can be economically efficient and profitable for its operators.
13. The number of operators and owners of rolling stock in the rail sector has grown significantly. Russia alone has almost 700 operators, 21 of which together own more than 600,000 wagons (71.8% of the country's wagon fleet). In Kazakhstan, private operators own 94% of the country's entire wagon fleet. In Belarus, by the end of 2012, over 75% of the wagon fleet was owned by Belarusian Railway. However, in Belarus as in the other two countries, the fleet owned by the national railways is shrinking while the privately owned fleet is increasing. Another trend in the SES wagon market has been the establishment of joint enterprises set up to share use of the fleet. Operators are also setting up branches in other SES countries. One example of cooperation between carriers is Astyk Trans in Kazakhstan, which has a fleet of 10,000 grain wagons. Astyk Trans, established by Kaztemirtrans and Rusagrotrans (the largest transporters of grain by rail), is also involved in transporting grain. United Transport and Logistics Company (UTLC)

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[1] White Paper. Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System. Document COM(2011) 144 final. European Commission. Brussels, 28.3.2011.

is another example of promising cooperation; the company will specialise in container shipments between Europe and Asia.

14. Favourable dynamics in the freight market and the stable growth of freight traffic since 2010 have supported an increase in the SES wagon fleet, which almost doubled from 600,000 to 1.12 million in 2008–2013. By 2013, this had led to a surfeit of wagons and it became very uneconomical to run wagons. In Russia, for example, the wagon turnaround time increased from 7.6 to 16.9 days in 2008–2013 and empty mileage grew significantly. The decline in output in Russia and consequent decrease in demand for haulage, together with the oversupply of certain types of wagons (primarily open wagons , led to a reduction in leasing rates and wiped out the profits of many private operators. In addition, the wagon building sector and the rolling stock leasing market began to stagnate.

15. Until 2020, the progress of rail transport in the SES will depend on economic growth, the prosperity of its citizens and their income per capita, the situation in the global markets, including with regard to products that provide key export business for SES railways. According to the basic scenario, in 2014 rail freight traffic will continue to decrease. It will begin to recover after 2015 and is expected to reach 2.7 trillion tonne-kilometres by 2020 (up 9.4% on 2013). Under the innovation scenario, freight traffic is forecast to reach 4 trillion tonne-kilometres by 2020 (up 62% on 2013). The strongest growth, according to the innovation scenario, is expected in Kazakhstan.

16. The passenger market in the SES will develop somewhat differently. In Russia, due to a predicted decrease in real disposable income per capita, rail passenger traffic in 2014–2015 is expected to decline. In Kazakhstan, the increasing mobility of its population will boost passenger traffic. The base scenario forecasts total passenger traffic in the SES to decrease to 1.17 billion passengers in 2014 and 1.16 billion in 2015. From 2015 onwards the demand for rail passenger transport is expected to recover, partly as a result of commissioning new sections of high-speed rail in Russia. According to the base scenario, by 2020, passenger traffic in the SES will reach 1.6 billion people (up 32% on 2013).

17. The future of rail passenger market in Russia and the SES as a whole will be influenced by the progress in the implementation of high-speed projects. The commissioning of new lines between Moscow, Nizhny Novgorod and Kazan and later to other destinations, will redistribute and optimise passenger flows between transport modes. Moreover, high-speed rail will create new demand for transportation and, consequently, will improve population mobility. High-speed rail can be used for regional and suburban traffic, thereby creating a new form of suburban transportation and contributing to the revival of rail transport in this segment. High-speed lines can also be used at night for container traffic, and this will create new demand in the rail market.

18. The growth of passenger and freight traffic will depend, to a significant extent, on transport policies promoted in the course of establishing the Eurasian Economic Union (EEU) as per the agreement signed by the heads of state on May 29, 2014. The main objectives of the coordinated transport policies of the Customs Union and the SES are to improve the openness and accessibility of member state transport markets and the economic efficiency and competitiveness of their transport systems. With regard to rail transport, these policies should address certain key tasks, including: the formation of a common market of transport services, freight forwarding and logistics; the creation of a single transport space; the improved integration, accessibility and quality through transport and logistics services; the coordinated development of international rail routes and corridors; harmonised legislation in SES countries, improved safety and quality of carriage; and the reduction of rail transport's detrimental impact on health and the environment.

19. There are certain prerequisites to the formation of a single transport space within the SES. These include provision to ensure rail transit potential is fully exploited and that the rail transport system is fully integrated into the global transport and logistics system. In order to achieve these goals, there must be concerted effort to develop competitive rail corridors in the SES, its large transport and logistics hubs and "dry ports". The establishment of the UTLC and unification of legislation relating to international carriage (in particular, the wider use of the CIM/SMGS way bills) will help to break down the administrative barriers to rail transit and decrease way time for container shipments. The use of intelligent transport systems (ITS) in international rail corridors, incorporating the latest telecommunication and global navigation technologies, will improve the planning and management of transport flows on Euro-Asian railways. The key issue which must be resolved in order to ensure the full use of transit potential is agreement on a competitive through transit rate for freight transportation between Europe and Asia.

Introduction

Rail transport is a crucial element of the economic and transport systems of Belarus, Kazakhstan and Russia, the countries which form the Single Economic Space (SES). It plays an important part in ensuring sustainable economic growth, international trade and tourism links, and population mobility.

Globalisation and changes in traditional global economic ties are challenging SES countries to maximise the potential of their unique economic and geographic position between Europe and Asia. Using the transit potential of the railways will have the benefit of bringing SES railways into international trade and will create new opportunities for integrating these countries into the global transport system.

The prominence of the rail sector is due to its capacity to ensure year-round regular transportation, to carry the largest proportion of bulk freight, and support mobility of labour. Railways are particularly important because they provide long-distance transportation, and because other modes of transport are relatively less developed, especially in Siberia and Russia's Far East region. Its significance is also due to the long distances that lie between the places where key raw materials are produced and the destinations and seaports to which they need to be transported.

In the late 20th century, dramatic geopolitical and socioeconomic transformation in SES economies had a negative impact on the development of rail transport. This led to the significant ageing and obsolescence of fixed assets in the sector. The financial resources needed to support and upgrade the railways were lacking, and as a consequence rail became less competitive than other modes of transport for freight and passenger transportation.

Rail transport has faced the same problems in most countries. The first steps to resolving them were structural reform to improve competitiveness and the introduction of innovative technologies (high-speed rail, special freight corridors, speeding container trains and adoption of the latest energy-efficient rolling stock).

In SES countries structural reform in the rail sector is far from complete and its pace is variable. This makes it impossible, for the time being, to form a common competitive market in freight and passenger operator services, which would cover the entire space.

The priorities for rail transport development in SES countries have been set out in a number of strategic documents adopted at national level (for example, the State Programme for the Development and Integration of the Transport Infrastructure of Kazakhstan until 2020; the Transport Strategy of the Russian Federation until 2030) and in the framework of the SES (the Eurasian Economic Union Agreement signed on May 29, 2014 and its appendices, the draft Transport Policy of the Single Economic Space until 2020: Time to Act) and the CIS (the Blueprint for Strategic Rail Transport Development in CIS Member States until 2020, approved in 2011 by the CIS heads of government).

These documents set out the objectives and purposes of rail transport development: modernisation of infrastructure and the removal of bottlenecks in the transport network, increasing capacity in line with demand, and enhancing its position in international traffic by improving global competitiveness.

This Review considers the issues of SES railways systems development and their performance in terms of transporting passengers and freight. It also describes the rail services market in the context of structural reform and growing competition with other transport modes and within the sector itself. The Review also discusses the establishment of a common market of transport services, a single transport space, and furthering rail transport cooperation in the SES, taking into account the creation of the Eurasian Economic Union (EEU).

1. Current Condition of Railway Systems in SES Member States

1.1. SES Railways Overview: Key Indicators

Rail transport plays a key role in the socioeconomic development of the Single Economic Space of Belarus, Kazakhstan and Russia. The condition of its infrastructure and rolling stock, the safety and quality of passenger and freight transport services, influence the socioeconomic development of the SES, its integration into the global transport system, the accessibility of transport, its ability to meet demand for transport services, and its ability to harmonise socioeconomic development on the vast Eurasian continent.

Geographically, SES railways are an integral and connecting element of the European and Asian railway networks. In the context of economic and trade globalisation, effective use of SES transit potential could generate significant economic benefit from additional freight traffic (primarily container shipment) and promote a new Euro-Asian transport and economic links to the long period.

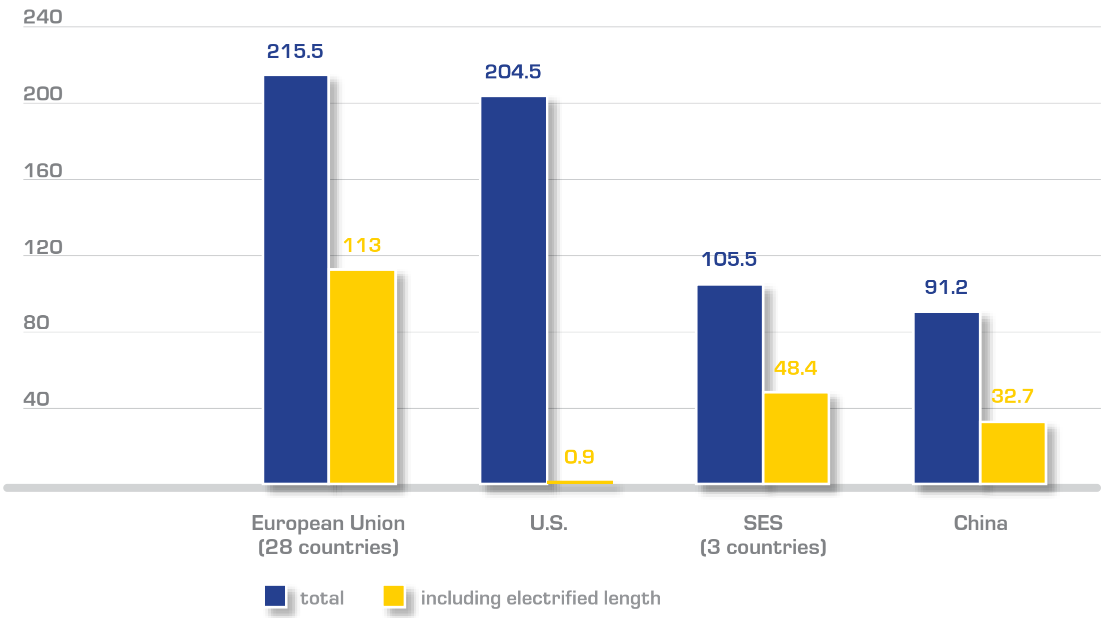
SES railways system rank third globally after the US and European Union (EU) in terms of length of track in use (see Figure 1) and second after the EU in terms of electrified rail links.

In 2013, the length of railway accessible for train service in SES countries totalled 105,500 km. In Belarus, 16.5% of the network was electrified, in Kazakhstan 28.2%, and in Russia 50.8% (see Table 1).

Figure 1.
Length of railways in countries and unions ('000 km)

Source: Eurostat

Note: China and U.S. (2010), EU (2011), SES (2013)



	2000	2007	2010	2013
Belarus				
– railway length	5,494	5,494	5,511	5,462
– including electrified length	888	888	898	899
Kazakhstan				
– railway length	13,521	14,205	15,079	14,759
– including electrified length	3,724	4,144	4,144	4,170
Russia				
– railway length	86,075	85,155	85,556	85,248
– including electrified length	41,115	42,911	44,015	43,306
SES total				
– railway length	105,090	104,854	106,146	105,469
– including electrified length	45,727	47,943	49,057	48,375

Table 1.
Length of public railways in use in SES member states (year–beginning, km)

Sources: CIS Interstate Statistical Committee, OSJD

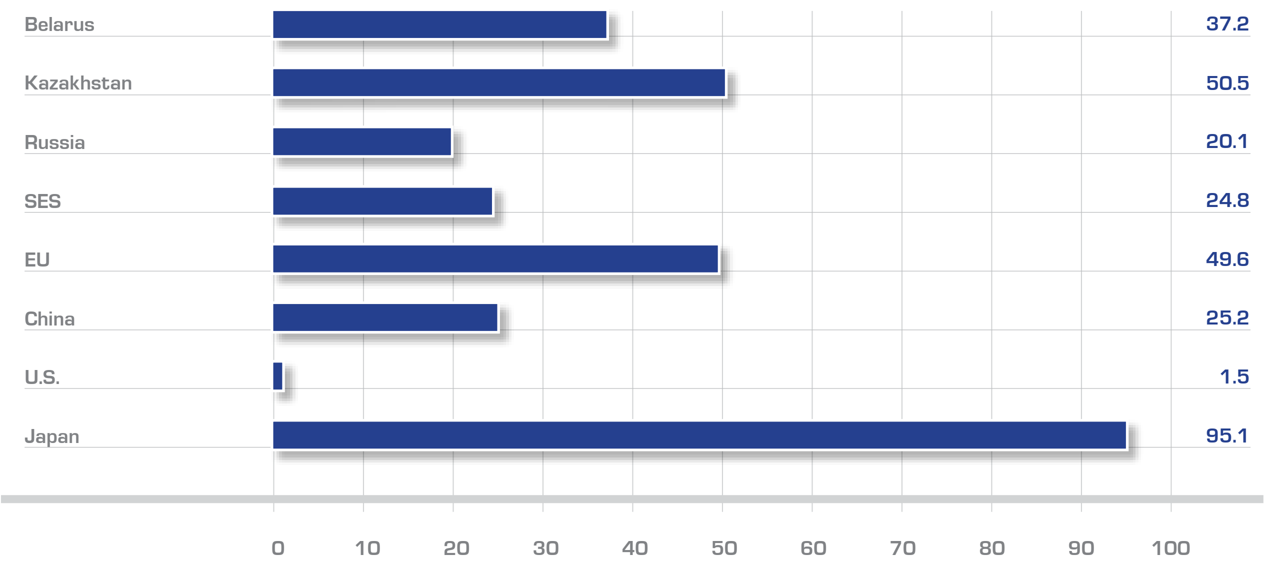
The density of public railways in the SES averaged 5.3 km per 1,000 sq km in early 2013: 26.3 km in Belarus, 5.4 km in Kazakhstan, and 5 km in Russia[1]. For comparison, the railway density in the US is 23.34 km, in China 9.48 km, and in some European countries (Belgium, Germany, the Czech Republic, Switzerland) over 100 km per 1,000 sq km.

The SES railway system is of a mixed type, as opposed to the "light" railways with low axle load, which are primarily used for passenger transportation (as in the EU and Japan), or "heavy" railways intended for freight traffic (the US, Canada, Australia and other countries).

The correlation between freight and passenger traffic, which is sometimes referred to as the "human–centredness of the transport system", is calculated as the share of passenger traffic in performed tonne–kilometres[2].

Figure 2.
Share of passenger traffic in adjusted tonne–kilometres for various countries and unions (2013)[3]

Sources: Eurostat, Belstat, Kazstat, Rosstat



[1] Source: CIS Interstate Statistical Committee.

[2] Performed tonne–kilometres is the sum of tonne–km and passenger–km converted into tonne–km using an adjustment coefficient. In this report we use Rostat's adjustment coefficient of 1 (1 passenger–km = 1 tonne–km).

[3] U.S. (2013, only first class railways); EU and China (2013).

The overall human-centredness of SES railways is comparable to that of China; it is higher than in the US, but lower than in the EU and Japan. Nevertheless, there are significant differences between SES countries: the share of passenger traffic in adjusted tonne-kilometres in Belarus and Kazakhstan is considerably higher than in Russia and almost equal to the European level (see Figure 2). The human-centeredness of Russian railways has tended to decrease in recent years.

Therefore, freight accounts for a very significant proportion of the SES rail traffic. According to Eurostat, SES railways carry approximately 20% of the world's freight (see Figure 3).

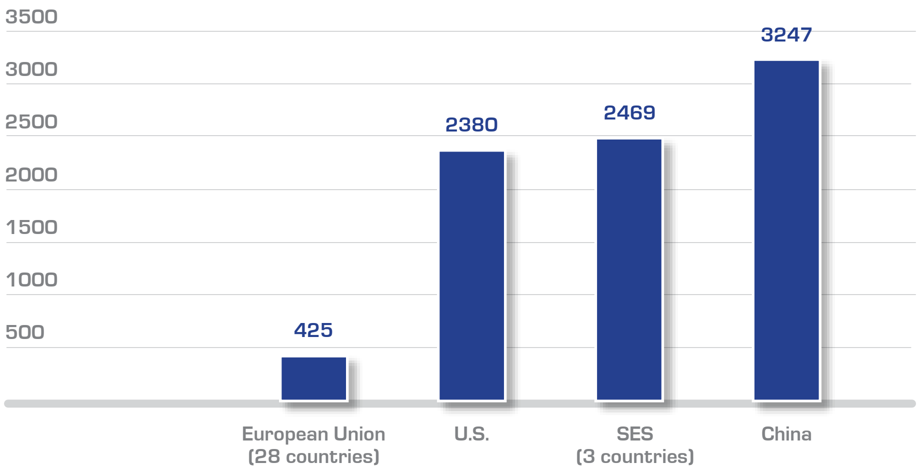


Figure 3. Volume of freight traffic in selected countries and unions (2013[4], '000 tonne-km)

Sources: Eurostat, Belstat, Kazstat, Rosstat

In the SES, railways handle more than 43% of total freight transported by all modes of public transport, the share being largest in Kazakhstan's total freight traffic (see Table 2, see Figure 4). Russian railways carry approximately 89% of all SES freight. In 2007–2013, freight traffic in the SES increased by 5.5%, but from 2013 onwards this figure went down in all the three countries because of the slowdown in economic growth and the reduction in industrial output in Russia in 2013–2014.

	2007	2008	2009	2010	2011	2012	2013
Belarus	47.9	49	42.7	46.2	49.4	48.4	43.8
Kazakhstan	200.8	214.9	197.5	213.2	223.6	235.9	229.1
Russia	2090	2116	1865	2011	2128	2222	2195.8
SES	2338.7	2379.9	2105.2	2270.4	2401	2506.3	2468.7

Table 2. Freight traffic on SES railways (2007–2013, billion tonne/km)

Sources: Belstat, Kazstat, Rosstat

While freight traffic in tonne-kilometre terms increased, the actual freight tonnage transported by SES railways in 2007–2013 decreased by 4.4% to 1.67 billion tonnes in 2013 (see Table 3). Kazakhstan has seen a significant increase in rail freight transportation in the past seven years (12.3%).

One important factor contributing to the increase in the SES freight traffic was the increase in the average distance per tonne transported by railways in Kazakhstan and Russia (see Figure 5).

[4] Resolution 129 of the Government of the Republic of Kazakhstan, dated January 31, 1997, On the Reorganisation of Rail Enterprises in the Republic of Kazakhstan.

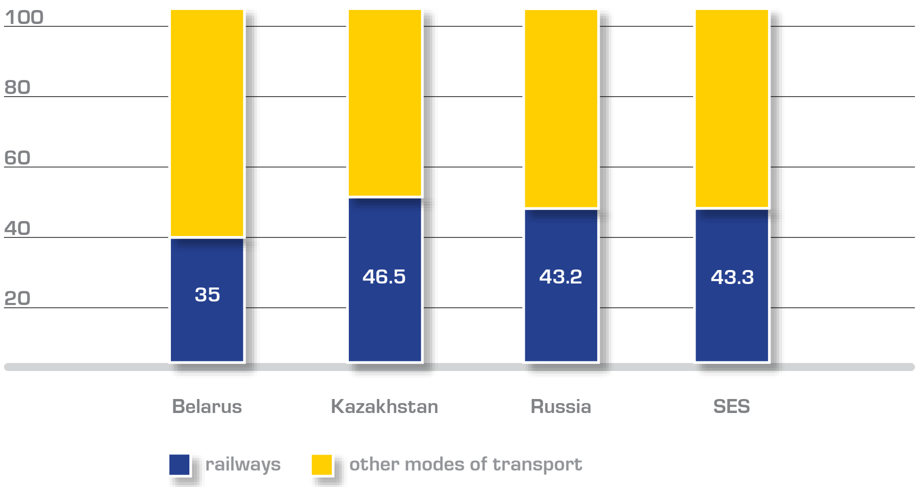


Figure 4.
Freight transported by railways as a proportion of the total volume of freight transportation in SES member states (2013, %)

Sources: Belstat, Kazstat, Rosstat

Table 3.
Freight tonnes transported by SES railways (2007–2013, million tonnes)

Sources: Belstat, Kazstat, Rosstat

	2007	2008	2009	2010	2011	2012	2013
Belarus	141	147	134	140	153	154	140
Kazakhstan	261	269	248	268	280	295	293
Russia	1,345	1,304	1,109	1,312	1,382	1,273	1,237
SES	1,747	1,720	1,491	1,720	1,815	1,722	1,670

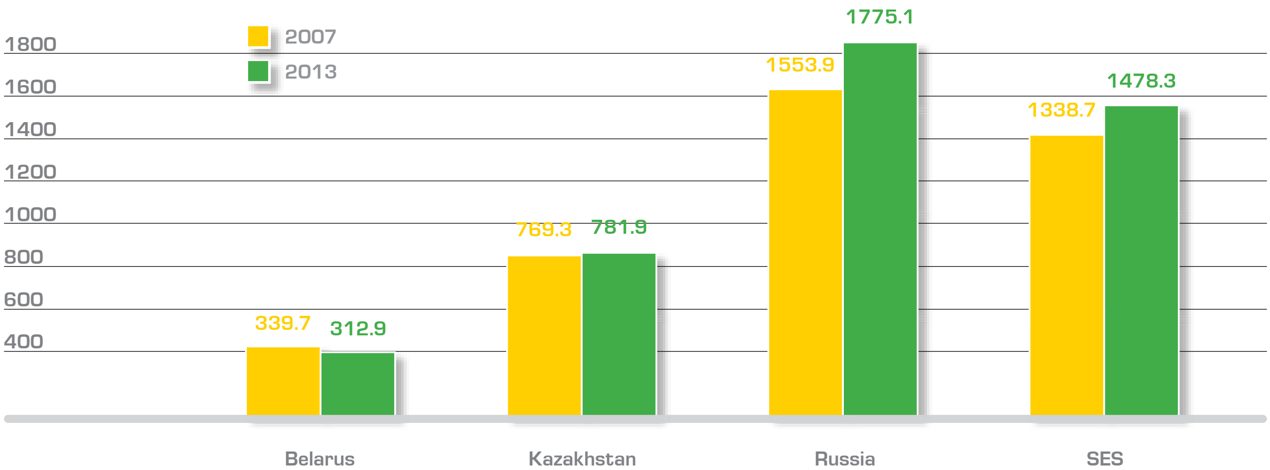


Figure 5.
Average distance per tonne of freight transported by SES railways (2007 and 2013, km)

Sources: Belstat, Kazstat, Rosstat

1.2. Dynamics and Structure of Rail Freight Transportation in the SES

In 2007–2013, international freight tonnage (including transit) transported by SES railways decreased by 1.3%, although this was entirely due to a decrease in Russia. In Belarus and Kazakhstan international traffic grew by 12.9 million and 41 million tonnes respectively (see Table 4).

The export tonnage transported by SES railways decreased by 10.9% over the period under review (the decrease being only in Russia), while freight imports and transit grew by 21.3% and 21.7% respectively.

The destinations of international freight transport in all the three SES countries are not balanced, with exports significantly exceeding imports (see Figure 6).

	2007	2008	2009	2010	2011	2012	2013
				Export			
Belarus	35	33.5	30	29.7	40.5	42.7	45.5
Kazakhstan	94.8	108.6	90.3	97.2	98.2	100.5	103.5
Russia	488	463.1	368.5	385.5	398.6	418.1	405.6
SES	617.8	605.2	488.8	512.4	537.3	561.3	554.6
				Import			
Belarus	14	15.2	12.6	15.1	17	19.7	18.6
Kazakhstan	15.1	23.4	14.7	17	23.8	28.9	27.7
Russia	109.6	113.4	77.5	98.7	112.1	119.5	121.8
SES	138.6	152	104.8	130.8	152.9	168	168.2
				Transit			
Belarus	49.4	50.6	43.4	45.6	50.4	45.5	46.9
Kazakhstan	13	12.7	12.6	21.9	32.7	40.2	42
Russia	39.8	37.8	22.5	27.7	30.2	34.1	35.5
SES	102.2	101.1	78.5	95.2	113.3	119.8	124.3
				TOTAL			
Belarus	98.3	99.3	86	90.4	107.9	107.9	111
Kazakhstan	122.9	144.7	117.7	136.1	154.7	169.6	173.3
Russia	637.4	614.3	468.5	511.9	540.9	571.7	562.9
SES	858.6	858.3	672.2	738.4	803.5	849.2	847.1

Table 4.
International freight tonnage transported by SES railways (2007–2013, million tonnes)

Source: OSJD

The share of exports decreased particularly sharply from 2009 to 2013 (from 72.7% to 65.6%) because of the physical decrease in exports carried by Russian railways, and the switching to pipelines of some of the oil being shipped to China and the Far East ports (the Eastern Siberia–Pacific Ocean pipeline). There were also bottlenecks in the network, which resulted in the phenomenon of freight "under-transportation". Over the period studied, transit as a proportion of total volume of international transport by rail has been growing (from 11.9% in 2007 to 14.7% in 2013).

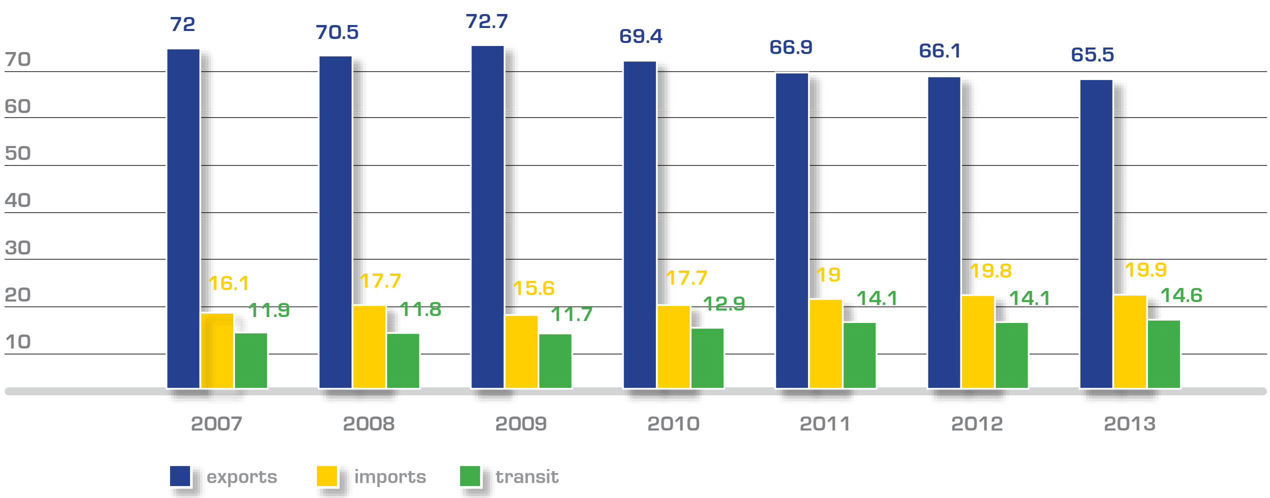


Figure 6.
Export, import and transit as a proportion of the total volume of international transport by rail in SES (2007–2013, %)

Source: OSJD

Export and import shipments between Russia and Belarus and between Russia and Kazakhstan account for approximately 20% of total international rail traffic.

Volume of transport between Russia and other SES countries (including transit) increased by 11.8% from 2008 to 155.3 million tonnes in 2013 (see Tables 5–7). Exports from Russia to SES countries grew by 13.2% and imports by 11.8% over the same period.

Freight shipments between Russia and Belarus in 2008–2013 went up by 21.4%, including by 8.9% from Russia to Belarus and by 120% from Belarus to Russia.

Traffic between Russia, Belarus and Kazakhstan in 2008–2013 grew by 5%. The traffic between Russia and Belarus accounted for 9.5% of Russia's total international rail shipments in 2013 and 48% of Belarus' total shipments (down by 5.6% from 2008).

In terms of nomenclature of freight carried between Russia and Belarus, the dominant cargoes are fuel and energy items (33.2%) and construction materials (26%).

The export from Russia to Belarus by rail in greatest quantities are crude oil, oil products, natural gas and ferrous metals. Approximately half of total volume of goods from Russia to Belarus is transported via the Rudnya border crossing point (see Figure 10).

	2008	2009	2010	2011	2012	2013 (estimate)
From Russia:						
– to Belarus	38,751	37,651	35,747	43,663	43,901	42,200
– to Kazakhstan	21,429	20,296	22,527	24,500	26,719	25,920
Total from Russia	60,180	57,947	58,274	68,163	70,620	68,120
To Russia:						
– from Belarus	5,140	4,403	6,770	8,791	10,658	11,100
– from Kazakhstan	73,648	70,500	72,232	76,179	74,604	76,100
Total to Russia	78,788	74,903	79,002	84,970	85,262	87,200
Total between Russia:						
– and Belarus	43,891	42,054	42,517	52,454	54,559	53,300
– and Kazakhstan	95,077	90,796	94,759	100,679	101,323	102,020
TOTAL	138,968	132,850	137,276	153,133	155,882	155,320

Table 5.
Volume of freight transport intra SES (2008–2013, '000 tonnes)

Source: OSJD

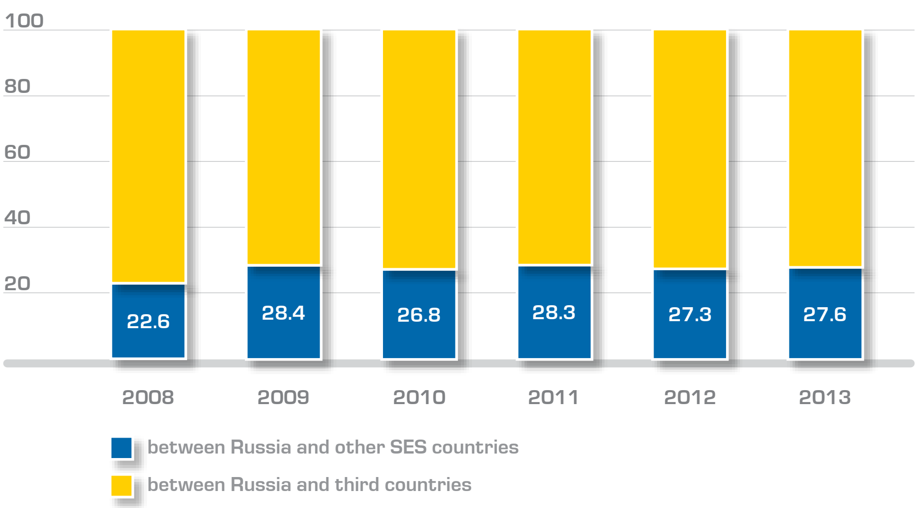


Figure 7.
Freight transport between Russia and SES countries in the total volume of international transport by rail (2008–2013, %)

Source: OSJD

Imports from Belarus to Russia are mainly of food products, trucks, tractors, furniture and car parts. Most freight (60.5%) crosses the border at Krasnoye (see Figure 11).

Freight shipments between Russia and Kazakhstan in 2008–2013 increased by 7.3% to 102.2 million tonnes, including by 21.8% from Russia to Kazakhstan and 3.3% from Kazakhstan to Russia.

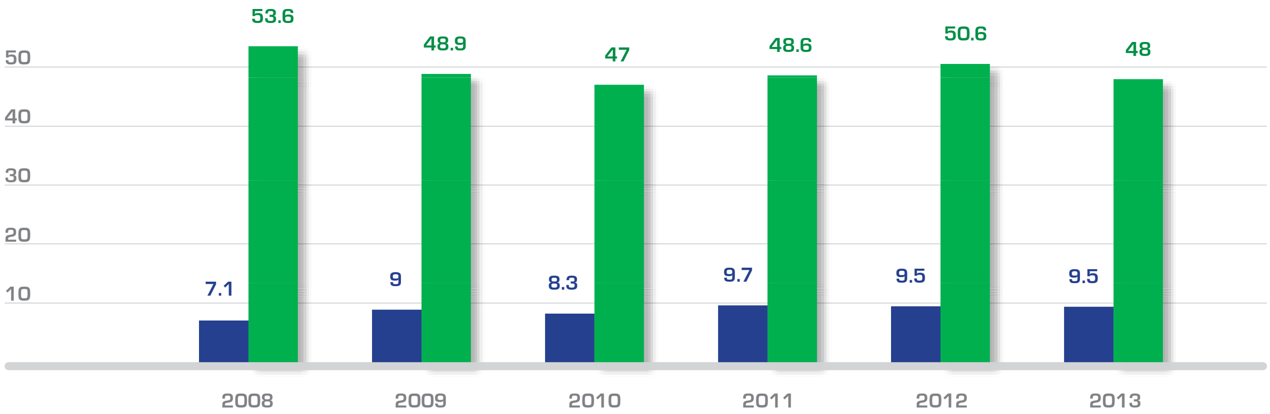


Figure 8.
Dynamics of freight shipments between Russia and Belarus as a proportion of their total international rail traffic (2008–2013, %)

Source: OSJD

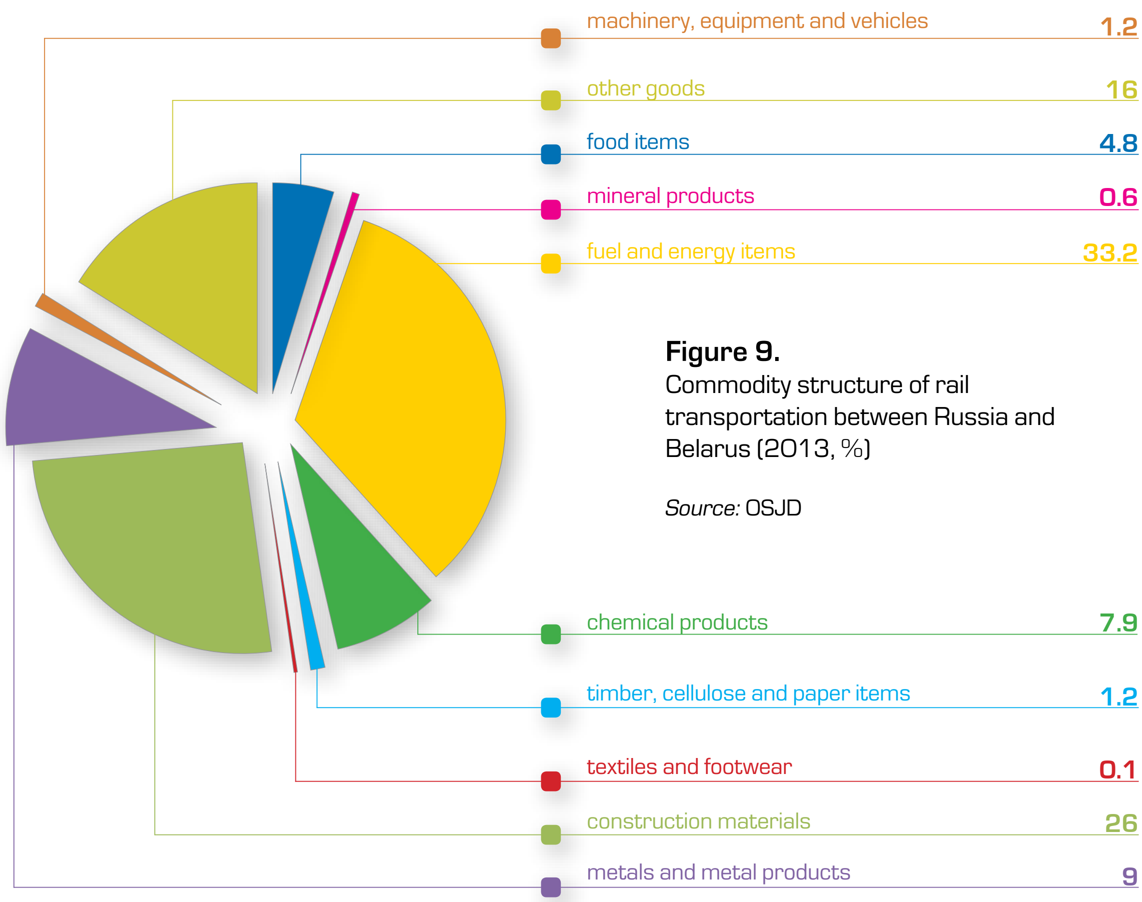


Figure 9.
Commodity structure of rail transportation between Russia and Belarus (2013, %)

Source: OSJD

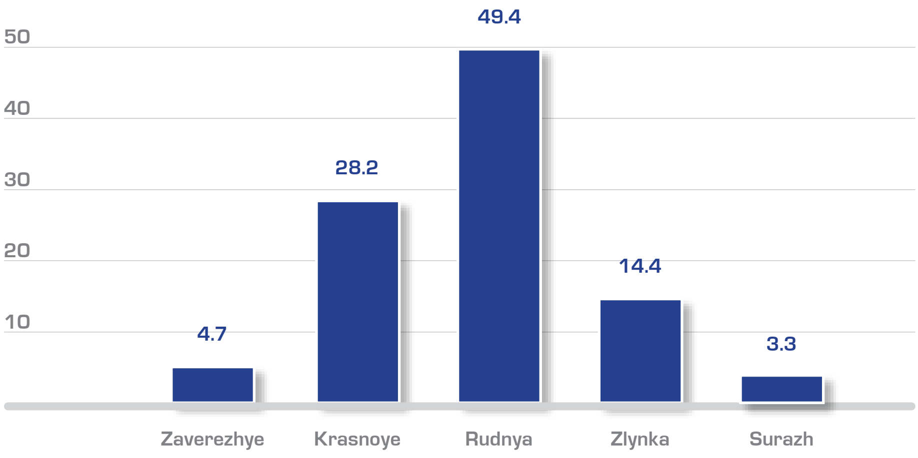


Figure 10.
Structure of freight transport from Russia to Belarus by border–crossing points (2013, %)

Source: OSJD

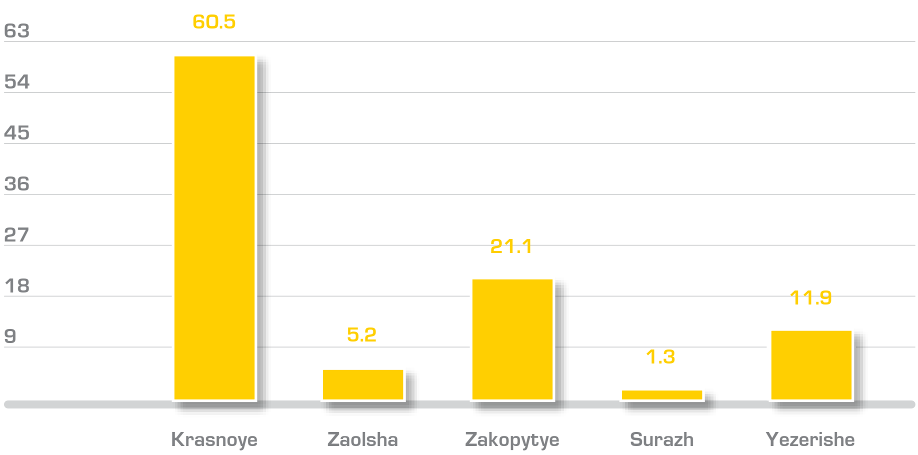


Figure 11.
Structure of freight transport from Belarus to Russia by border crossing point (2013, %)

Source: OSJD

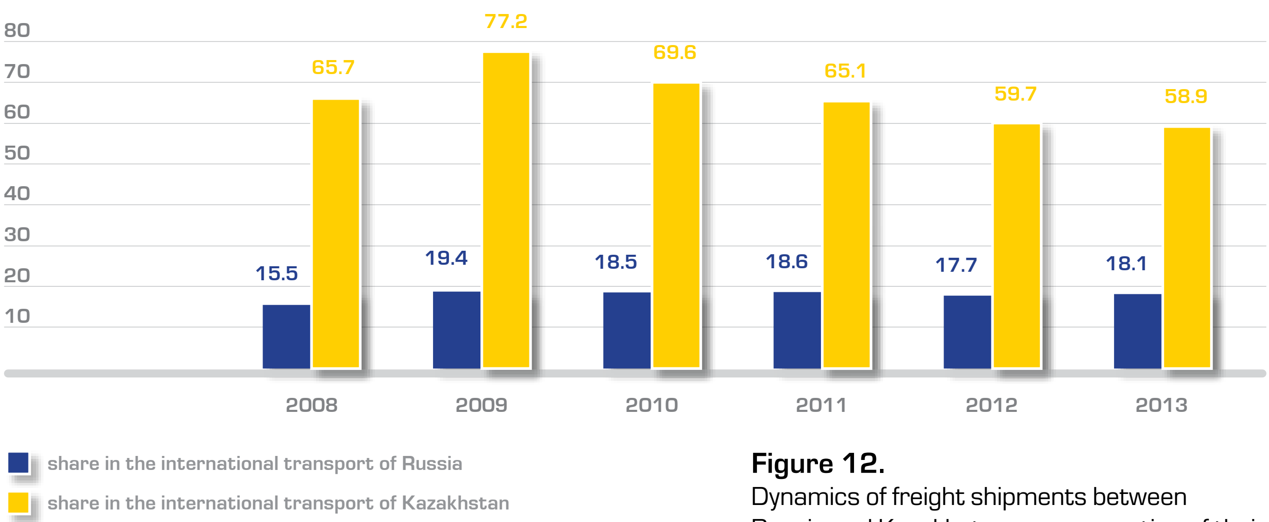


Figure 12.
Dynamics of freight shipments between Russia and Kazakhstan as a proportion of their total international rail traffic (2008–2013, %)

Source: OSJD

Shipments from Russia to Kazakhstan as a proportion of Russia's total international rail traffic increased to 18.1% in 2013 (compared to 2008) and in Kazakhstan's total freight traffic by 58.9% (although this was down 6.8% from the 2008 level).

Fuel and energy related goods and mineral products are the main items carried between these countries, accounting for 61.5% and 17% of total shipments respectively (see Figure 13).

The main exports to Kazakhstan are oil, mineral and construction products and ferrous metals. Coke, timber goods, coal, fertilisers, grains and ores are transported in significantly lower quantities (about 2% each).

The largest exporters of ferrous metals to Kazakhstan are the Russian regions of the Urals and West Siberia (these regions account for 80% of all Russian exports of these items to Kazakhstan).

Almost all the coal shipped to Russia from Kazakhstan comes from the Ekibastuz basin. The largest consumers in Russia are Sverdlovsk, Chelyabinsk and Omsk Regions, which receive approximately 95% of all coal imports from Kazakhstan.

The second largest type of commodities transported is ore. Ore shipments from Kazakhstan to Russia totalled 15 million tonnes in 2012 and 16.2 million tonnes in 2013. Practically all shipments are from the Sokolovsko-Sarbaisky mining and processing plant (the supplier of iron ore) and their main consumer in Russia is the Magnitogorsk Iron and Steel Works.

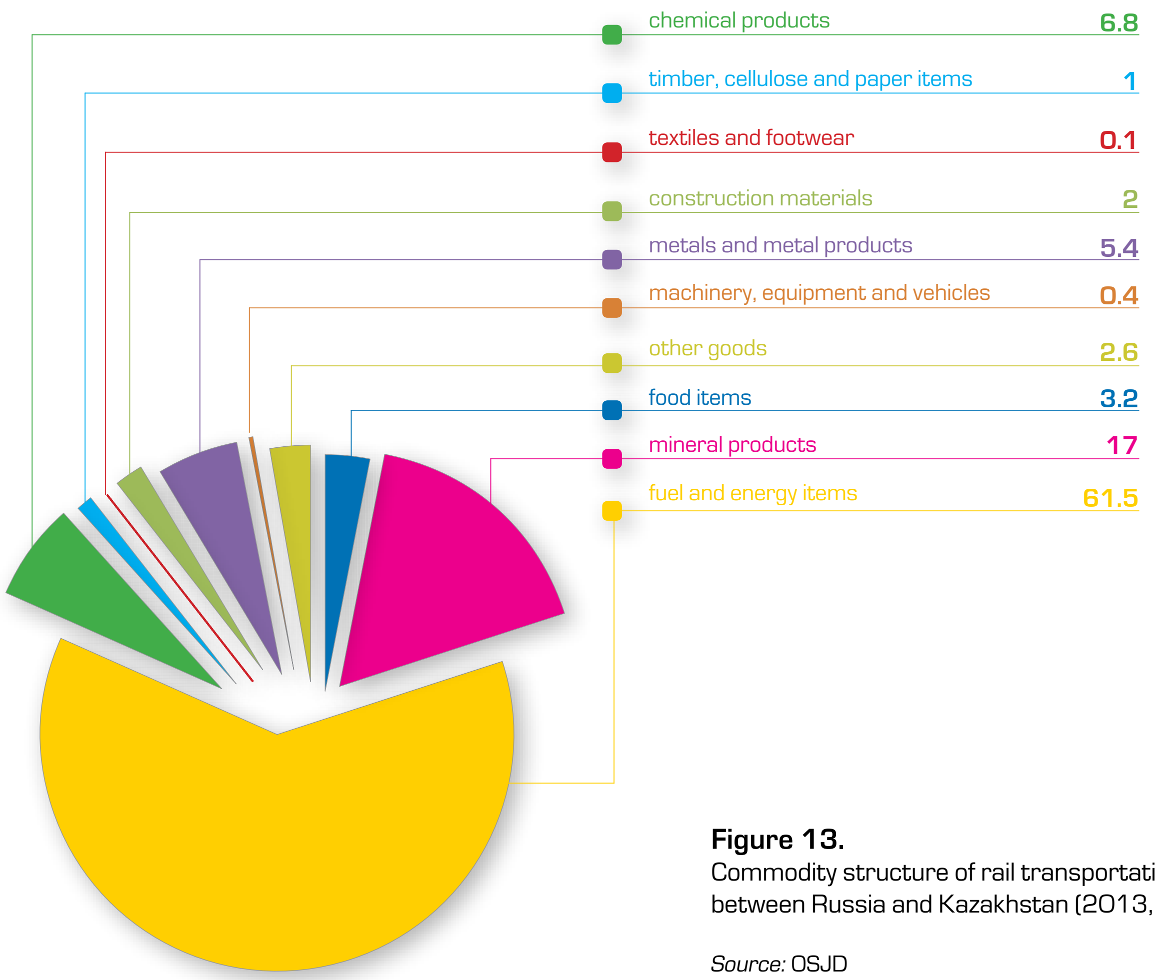


Figure 13.
Commodity structure of rail transportation between Russia and Kazakhstan (2013, %)

Source: OSJD

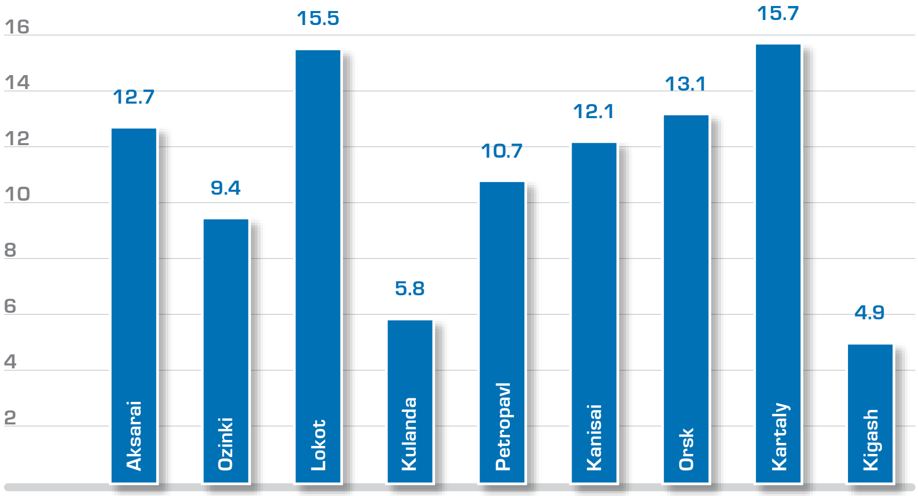


Figure 14.
Structure of freight rail transportation from Russia to Kazakhstan by border crossing points (2013, %)

Source: OSJD

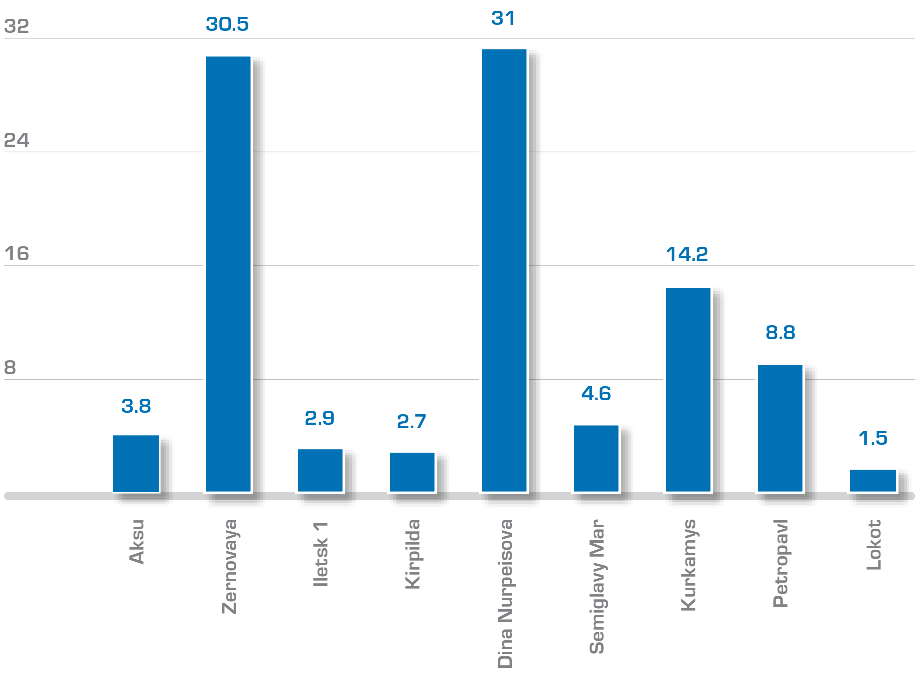


Figure 15.
Structure of freight rail transportation from Kazakhstan to Russia by border crossing points (2013, %)

*Source:*OSJD

Grains, other items, ferrous metals and construction materials, oil, fertilisers and coke are shipped in much smaller quantities (each less than 1% of all freight traffic from Kazakhstan to Russia).

Roughly one third of Russian exports to Kazakhstan were transported through the Lokot and Kartaly points (see Figure 13).

The largest share of Kazakh shipments to Russia cross the border at Zernovaya and Dina Nurpeisova: 30.5% cross via Zernovaya (which connects the Kostanai Region with the Southern Urals region in Russia and the Trans-Siberian Railway) and 31% via the new Dina Nurpeisova export checkpoint. Since being modernised Dina Nurpeisova is the crossing point that allows the shortest journey time for freight shipments from Western Kazakhstan to Russia and Ukraine.

1.3. Passenger Rail Traffic in SES Member States

In SES countries, railways play an important role in passenger transportation. In 2013, their passenger traffic was next only to that of China, Japan and India, which traditionally carry colossal numbers of passengers, and the European Union (see Figure 16).

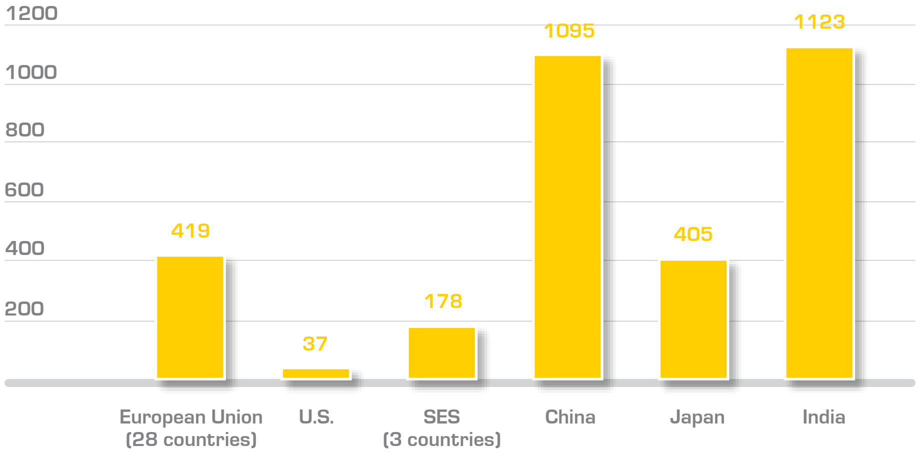
As opposed to China and India, whose passenger traffic is growing both in terms of numbers and passenger-kilometres, in the SES the total number of passengers carried from 2007 to 2013 went down by 13% to 1.2 billion (see Table 6). This was because of a 16% decline in Russian passenger numbers from 1.28 billion in 2007 to 1.08 billion in 2013.

Other SES countries saw a growth in passenger transportation, with Kazakhstan generating an impressive 44.8% increase from 18.1 million in 2007 to 26.2 million in 2013.

Figure 16. Passenger transportation by the world's largest railways (2013, billion passenger/km)*

Source: Eurostat

Note: US and Japan (actual data for 2011–2012); India (data for financial year of 2012–2013)



	2007	2008	2009	2010	2011	2012	2013
Belarus	92.6	88	83.5	83.6	89	100.5	100.5
Kazakhstan	18.1	17.7	18.6	19.6	20.5	24.4	26.2
Russia	1,282	1,296	1,137	947	993	1,058.5	1,079.6
SES	1,392.7	1,401.7	1,239.1	1,050.2	1,102.5	1,183.4	1,206.3

Table 6. Passenger transportation by rail in SES member states (2007–2013, million people)

Sources: Belstat, Kazstat, Rosstat

The significant reduction in Russia's passenger traffic was the result of passengers preferring to make long-distance journeys by air and use buses for suburban and short journeys (see Figure 17).

Many countries experienced similar shifts in passenger traffic from rail to other modes of transport. In the EU, for example, the increase in rail passenger transportation is primarily due to the adoption of high-speed trains. According to Eurostat, from 1995 to 2011, rail passenger traffic in EU member states increased from 351 to 407 billion passenger kilometres. In 2013 this figure reached 419 billion. Statistics also suggest that the increase in the number of passengers using railways in Japan and China is greater for high-speed railways than for traditional railways.

More than 3.1 million people use SES railways daily. In terms of passenger kilometres, traffic in the SES went down by 15.1% in 2007–2013 to 177.5 billion passenger km, mainly because of declines in Russia (Russia accounts for over 82% of rail passenger traffic in SES member states (see Table 7).

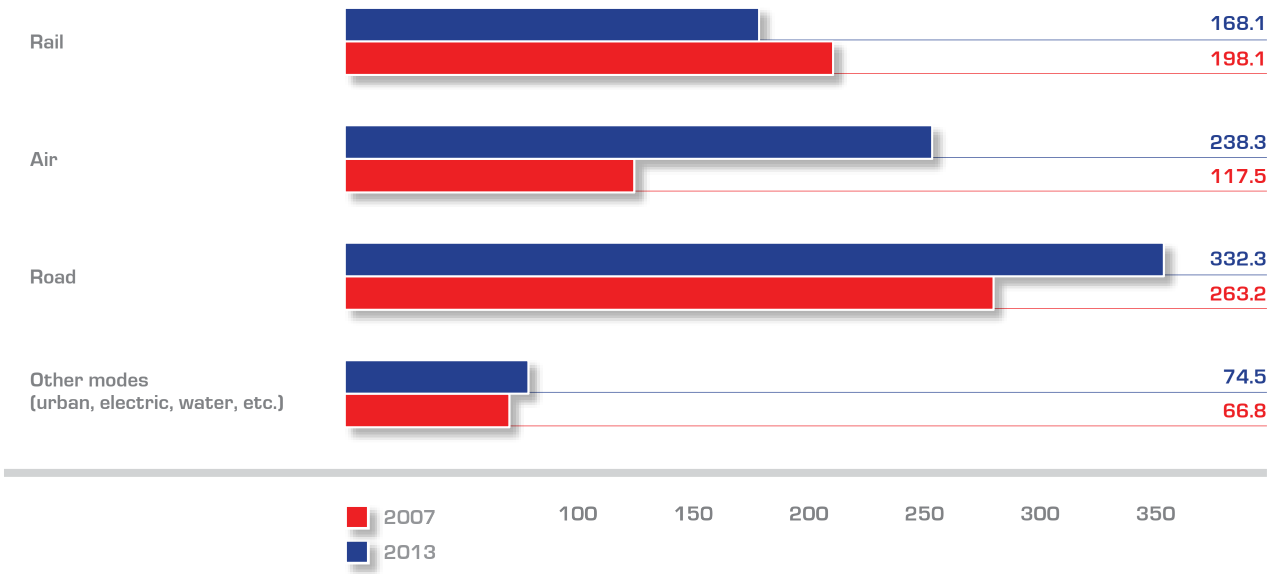


Figure 17.
Modal split in passenger transport in SES (2007 and 2013, billion passenger/km)

Sources: Belstat, Kazstat, Rosstat

The average distance travelled per passenger in the SES in 2013 was 147.8 km, but this figure varies significantly between the three countries. It is lower in Belarus and Russia, where the proportion of short-distance suburban journeys is high (89.6 km and 137 km respectively), and quite high in Kazakhstan (786.3 km), where medium- and long-distance journeys are more frequent (see Figure 18).

Although railways accounted for a decreasing share of total traffic by all modes of transport in the SES, between 2007 and 2013 they continued to account for a very significant proportion of total transportation in some countries, notably in Belarus, where every third passenger kilometre was serviced by rail (see Figure 19).

	2007	2008	2009	2010	2011	2012	2013
Belarus	9.4	8.2	7.4	7.6	7.9	9	9
Kazakhstan	14.6	14.7	14.7	16.1	16.6	19.3	20.6
Russia	174.1	175.9	151.5	138.9	139.8	144.6	147.9
SES	198.1	198.8	173.6	162.6	164.3	172.9	177.5

Table 7.
Rail passenger traffic in SES member states (2007–2013, billion passenger/km)

Sources: Belstat, Kazstat, Rosstat

Approximately 18% of all international rail passenger traffic in the SES is between the three SES countries, and 75% of international traffic between SES countries is between Russia and Belarus. Traffic between Belarus and Kazakhstan remains insignificant despite the launch of the Minsk–Almaty line on May 27, 2012.

In 2013, SES railways carried a total of 31.4 million international passengers (approximately 2.8% of the total passenger traffic by rail). Compared to 2007, international traffic grew by 2.2%, including by 14.7% in Kazakhstan and 9.9% in Russia; in Belarus international passenger traffic decreased by 18.3% (see Figure 20).

In 2007–2013, rail passenger traffic between Russia and other SES countries increased by 10.9%, including by 10.8% between Russia and Belarus, and by 11.3% between Russia and Kazakhstan (see Table 8). International journeys between SES countries peaked in 2008.

Figure 18. Average distance travelled per rail passenger in SES member states (2007 and 2013, %)

Sources: Belstat, Kazstat, Rosstat

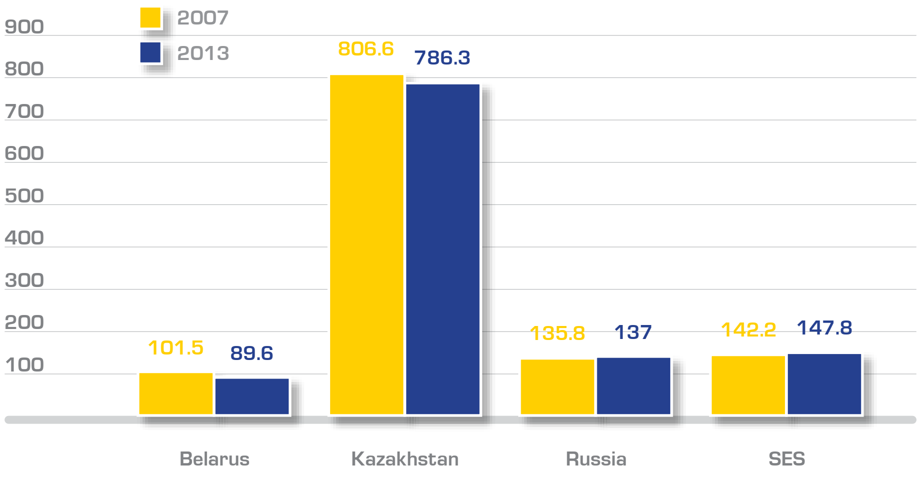


Figure 19. Share of railways in the total volume of passenger transportation by all modes of transport in SES member states (2007 and 2013, %)

Sources: Belstat, Kazstat, Rosstat

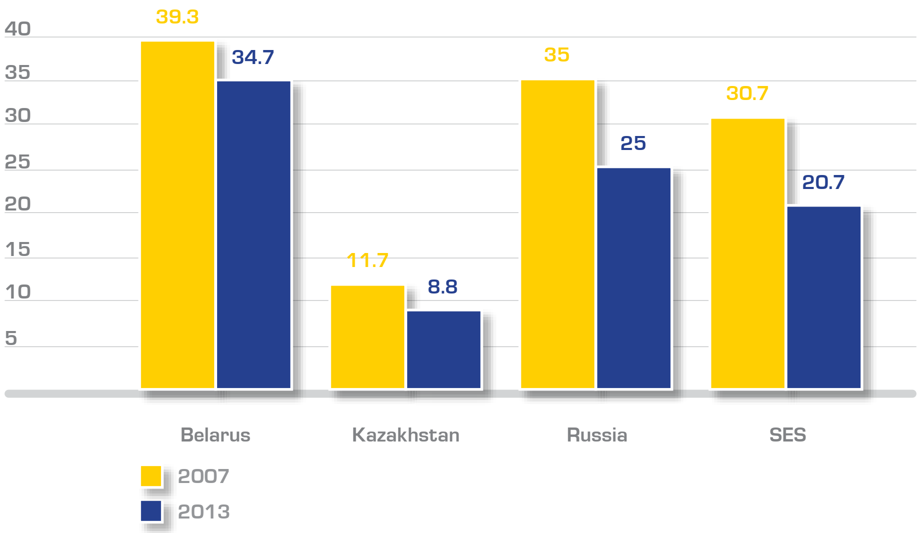
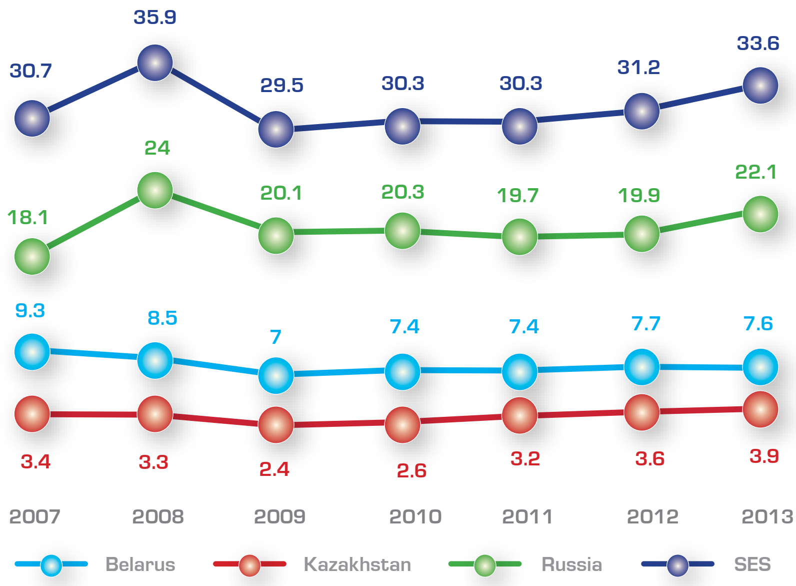


Figure 20. Dynamics of international passenger transportation by rail in SES member states (2007–2013, million people)

Sources: OSJD, FPC, KTZh



	2007	2008	2009	2010	2011	2012	2013 (estimate)
Between Belarus and Russia	3,656	4,848	4,062	4,091	3,973	4,020	4,050
Between Kazakhstan and Russia	1,231	1,632	1,367	1,377	1,337	1,353	1,370
Between Belarus and Kazakhstan	1	2	1	1	1	6	3
Total within SES	4,888	6,482	5,431	5,470	5,311	5,379	5,423

Table 8.
International rail passenger traffic between SES member states (2007–2013, '000 people)

Source: OSJD

The global financial crisis, which began in 2008 and had its greatest impact on the SES economies and Russia in 2009, reduced real disposable income and consequently the demand for travel, especially long-distance travel. As demand recovered, tough competition and cost reductions meant civil aviation captured a significant proportion of passenger traffic. This shift in SES passenger traffic created a paradox: while the overall demand for long-distance journeys kept growing, rail traffic went down and air traffic increased tremendously in certain years. These trends indicate that measures need to be taken to improve railways used for passenger transport and to create opportunities for passenger transport operators to emerge.

1.4. Structural Reforms in the Rail Sector

Structural reform in the rail sector has had and will continue to have, in the near term, a significant impact on the SES market in rail passenger and freight transportation. Significant change began in the late 20th and early 21st century as many countries realised that, despite the growing demand for transport services, they were unable to meet this demand and were unprepared for fierce competition with other modes of transport, primarily road transport. This resulted in the reduction in transport volumes (especially for the more expensive freight) and revenues, the efficiency of the railways declined, and the government support had to increase, out of necessity. Similar trends emerged in the passenger sector, as described in the previous section of this report.

Increased competition was a trend in most countries, benefiting modes of transport which were the most efficient and which offered the highest quality passenger and freight transportation. However shifts in freight and passenger traffic trends, especially in the 1970s and 1980s, had a number of adverse effects, primarily higher loads on roads and major airports, and significantly affected the environment. Today, an important element of transport policies in many countries is the need for radical reform the rail sector in order to improve its efficiency and allow it to regain its leading position in the transport market.

The key objectives of ongoing reform in the sector were to improve inter-sectoral competition and the competitiveness of railways in the transport market. These objectives were to be achieved by liberalising access to rail infrastructure and a policy of non-discrimination for rail passenger and rail freight operators.

Transport policies and reforms to improve the competitiveness of railways had different results in different countries, depending on historical trends, geographical factors, the existing structure of transportation, the correlation of freight and passenger traffic, and other factors.

In the US, for example, where the rail transport market was initially made up of independent, vertically integrated private companies, competition was improved through the liberalisation of fare policies and by allowing carriers to use individual, contractual fares. The issue of whether to liberalise access to infrastructure and establish the respective rules was a pressing one, because the mutual use by carriers of each other's infrastructure had been the norm in the US for a long time.

The situation in the EU was different. Until the late 1980s, each EU country had its own national rail enterprise, which had monopoly use of the country's infrastructure and owned its own rolling stock.

The main goal of rail reform in the EU was to separate infrastructure and service operators. Infrastructure remained the property of the state or state-owned companies. Operations (including rail car fleet and locomotives) are now performed by commercial carriers, who pay to access infrastructure. Thus, infrastructure and rolling stock, including locomotives, are entirely separate and are owned by different legal entities. The perceived advantage of this scheme is that it encourages competition in the area of transportation. Carriers set fares independently and compete for passenger and freight traffic.

Russia and Kazakhstan have been proactive in implementing structural reforms in the rail sector. These are aimed at separating state management and business operations, and at identifying areas which can be de-monopolised and a competitive market introduced. These include independent freight and passenger operators and rolling stock users. In Kazakhstan, Kazakhstan Temir Zholy (KTZh), a state-owned enterprise, was set up in 1997[4] and in 2002 it became a joint-stock company[5]. Since 2003, locomotive, passenger and freight operators, and independent rail car owners, have been building up their businesses in the country. The Russian government approved the Railway Sector Structural Reform Programme on May 18, 2001. Russian Railways was set up in 2003[6]. However, the first rail freight operators appeared even earlier: the first company engaged in the commercial export of oil products by rail was established in 1998. However, operator services were not opened up to the market until the Resolution on the Procedure for the Establishment of Operator Companies in the Federal Rail Sector was approved in 2001.

In Belarus, rail transport is developing in a completely different way to the Russian, Kazakh and EU models. According to official documents, in Belarus, changes in the sector are not regarded as reforms: the State Railway Transport Development Programme of Belarus for 2011–2015 only addresses the modernisation of the sector within the existing model, where Belarusian Railway remains a state-owned company accountable to the Ministry of Transport and Communications.

Therefore, the SES does not have a uniform policy with regard to reform of the rail sector. Moreover, the progress and consequences of the reforms have been roundly criticised, especially in Russia. The legislative framework, for example, failed to take account of certain crucial aspects of structural reform. The opportunities included in the existing basic statutes are not fully exploited, which means that actual economic relationships between infrastructure owners and carriers exist with significant uncertainties.

The precondition factors for separating infrastructure operations and carrier services in Russia are following:

- the country has the only infrastructure owner – Russian Railways;
- independent car operators operate their own trains (albeit on a limited scale);

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[4] Resolution 129 of the Government of the Republic of Kazakhstan, dated January 31, 1997, On the Reorganisation of Rail Enterprises in the Republic of Kazakhstan.

[5] In accordance with Resolution 310 of the Government of the Republic of Kazakhstan, dated March 15, 2002, On the Establishment of Kazakhstan Temir Zholy National Closed Joint-Stock Company, KTZh was set up by merging Kazakhstan Temir Zholy (which at the time was a state-owned enterprise) and its state-owned subsidiaries. On April 2, 2004, in accordance with the Law of the Republic of Kazakhstan dated May 13, 2003 On Joint-Stock Companies, KTZh CJSC was re-registered as a joint-stock company.

[6] Resolution 384 of the Government of the Russian Federation, dated May 18, 2001, On the Railway Sector Structural Reform Programme (as amended by Resolution 811 of the Government of the Russian Federation, dated December 20, 2004).

- the country has hundreds of licensed rail carriers with the official right to use other's infrastructure; and
- passenger transportation is a separate business segment.

The sector, which comprises indivisible infrastructure entities without any alternative (track, in the first instance), needs special institutional conditions to provide equal access to monopolistic segment of infrastructure and services.

The resolutions passed by the Russian government to streamline access to general-purpose rail infrastructure fail to comprehensively ensure non-discriminatory access to it. This was a result of continual changes in economic conditions and organisational and structural modifications in the sector. Given that Russian Railways, as the process of reform moves forward, will gradually take the form of an "infrastructure company", it becomes increasingly important to create the conditions that will ensure non-discriminatory access to infrastructure for independent operators.

Proceeding from the above, the next chapter elaborates on the functioning and development of rail infrastructure and competition between rail and road transport. Chapters 3 and 4 review the functioning of markets in passenger and freight transportation. Chapter 5 proposes parameters for a coordinated transport policy, taking into account the specific features of rail sector reforms in SES member states.

2. Competition in the Rail Sector and Transport Policies

2.1. Main Forms of Competition in the Rail Sector of SES Member States

As it was earlier outlined, the decline in the competitiveness of the rail sector for passenger and freight transportation prompted many countries, including SES member states, to launch programmes of reform.

In Eurasia competition has been introduced into the rail passenger and rail freight transport markets. Types of competition fall into main three categories, two of which are intrasectoral and sectors and one is intersectoral:

1. Competition between passenger and freight rail operators is a form of internal competition, which was result of structural reforms and affects the operator's market;
2. Another type is the competition of infrastructures which implies the competition between different countries or groups of countries as they strive to attract passenger and freight flows to the rail routes/corridors running through their territories. Competition for passenger traffic between traditional railways and high-speed rail systems is apparent in the prioritised development of international transport corridors and rail routes designed to link Eurasian destinations and exploit the transit potential of SES countries. In recent years national transport strategies in SES countries have prioritised investment in speed and high-speed rail.
3. Rail and road transport networks compete over freight transportation, whilst rail, air and road transport all compete for passengers. The distribution of passenger and freight flows between different modes of transport ("modal shift") has been another feature of national transport strategies in recent years because of the dramatic growth of auto transport and the bottlenecks now affecting transport networks.

2.2. Main Transport Routes and Competition between them

The competition between long-distance rail freight lines in Eurasia is concentrated on the main routes from east to west, and north to south. Competition between routes has been particularly evident since the Uzen–Kyzylkiyak–Bereket–Etrek line between Kazakhstan and Turkmenistan was commissioned in 2013. The line connects to Iran's rail network. Competition is often geopolitical. Below we review main rail connections between SES countries and between the SES, Europe and Asia, and give a summary of international projects and programmes to develop Eurasian transport links.

A significant proportion of rail traffic between SES countries is historically carried by certain well equipped railways which are connected to international transport networks, ensure foreign trade and Eurasian transit links through the SES countries.

The Eurasian Economic Community (EurAsEC), with support from Eurasian Development Bank (EDB), set out the framework to identify and analyse these routes. A List of EurAsEC Transport Routes, which included five rail routes coinciding with Organisation for Cooperation of Railways (OSJD) Eurasian corridors and two combined (multimodal) routes, was approved by the EurAsEC Interstate Council (at heads of government level) on April 18, 2007 (Resolution №331). The multi-modal routes, which comprise both road and rail links, are the North–South Transport Corridor and Pan-European Transport Corridor II.

In 2010–2011, the Comprehensive Plan for the Development of Road and Railway Infrastructure included in the List of EurAsEC Transport Routes was drafted with financial and technical assistance from EDB. The objective of this plan was to identify technical upgrading priorities for EurAsEC transport systems to improve their transport and transit potential. The plan also included a scheme to develop a network of international logistics hubs in order to improve the efficiency and quality of product distribution in the EurAsEC.

The List of EurAsEC Transport Routes comprises 142 infrastructure projects, some extending to the year 2020, including 46 rail projects and 45 logistics hubs.

The main rail routes are shown in *Figure 21* and include:

1. Combined routes:
   - North–South Transport Corridor
   - Pan-European Transport Corridor II
2. Rail routes:
   - Brest–Minsk–Moscow–Nizhny Novgorod–Perm–Yekaterinburg–Omsk–Novosibirsk–Krasnoyarsk–Irkutsk–Far East ports in Russia's Primorsky Krai (OSJD Route 1);
   - Moscow–Ryazan–Syzran–Orenburg–Aktobe–Kandyagash–Saryagash–Tashkent (OSJD Route 1e).
   - Moscow–Kazan–Yekaterinburg–Kurgan–Petropavl–Astana–Dostyk (OSJD Route 2);
     - Dema–Kartaly–Tobol–Astana (OSJD Route 2e).
   - Valuyki–Penza–Kurgan–Presnogorkovskaya–Kokshetau–Aktogai–Dostyk (OSJD Route 5);
     - Rtischevo–Ozinki–Arys–Lugovaya–Almaty–Dostyk; Lugovaya–Bishkek–Rybachye (OSJD Route 5zh).
   - Krasnaya Mogila–Gukovo–Likhaya–Volgograd–Aksarai–Makat–Oasis–Karakalpakia–Naimankul–Nukus–Uchkuduk–Navoi (OSJD Route 8);
     - Makat–Kandyagash–Nikeltau–Kartaly (OSJD Route 8b).
   - Turkmenistan border–Bukhara–Dzhizak–Khavast–Tashkent–Saryagash–Lugovaya/Bishkek–Aktogai–Dostyk; Aktogai–Lokot–Novosibirsk–Far East ports in the Primorsky Krai of Russia (OSJD Route 10);
     - Khavast–Bekabad–Kanibadam–Kokand–Andijan–Karasu–Osh/Jalal-Abad (OSJD Route 10v);
     - Bukhara/Samarkand–Karshi–Kudukli (Saryasiya)–Pakhtaabad–Dushanbe–Yangibozor; Bukhara/Samarkand–Karshi–Amuzang–Qurghonteppa–Kulob/Yovon; Bukhara–Karshi–Termez–Galaba–Hairatan (Afghanistan) (OSJD Route 10g).

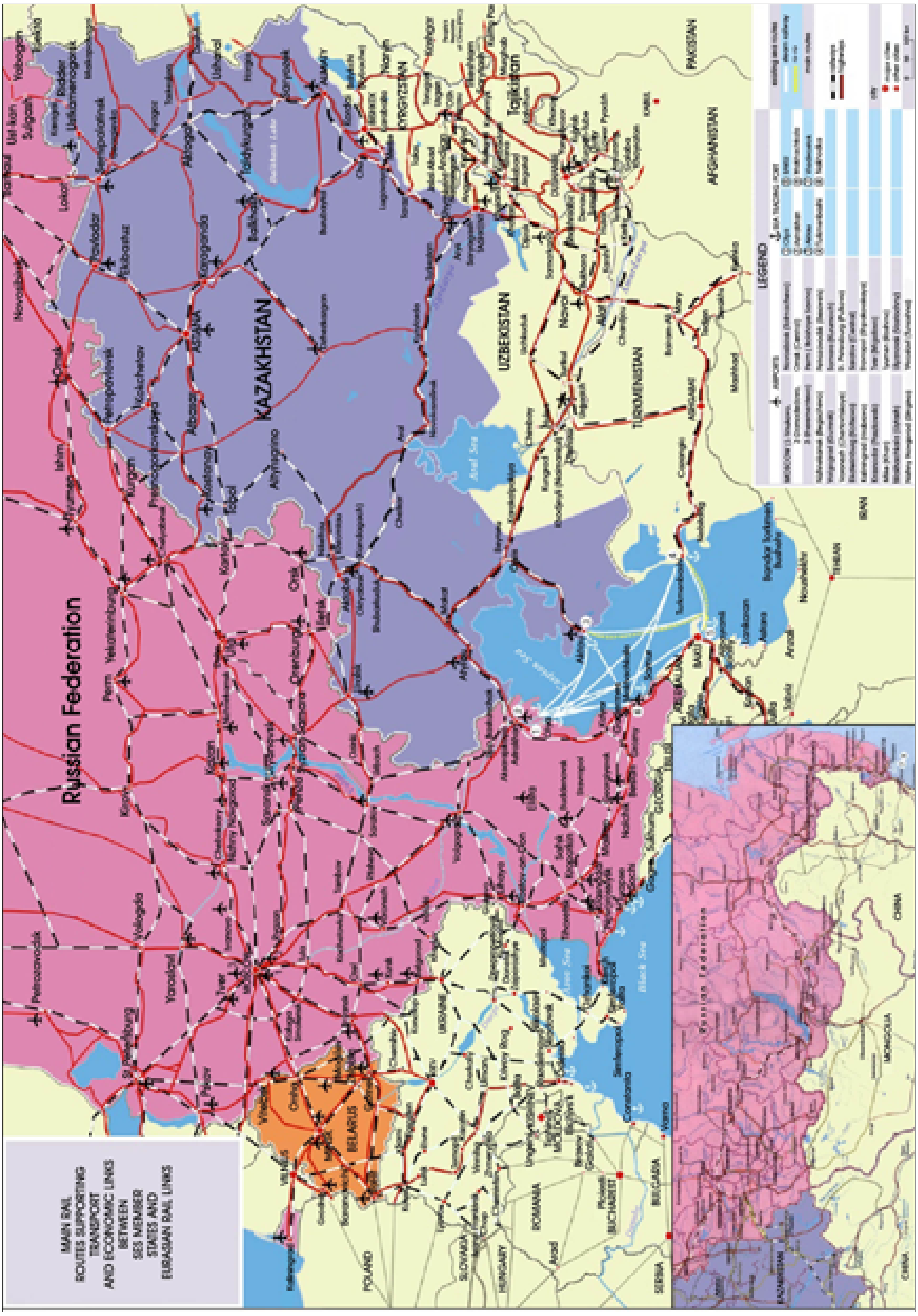

Figure 21.
Main rail routes supporting transport and economic links between SES member states and Eurasian rail links

Source: EDB

Some of the routes listed above form the rail corridors identified by the Organisation for Cooperation of Railways. This emphasises how importantly their development is viewed by other intergovernmental and non-governmental multilateral institutions.

OSJD is Eurasia's leading international transport organisation. It was created at a Conference of transport ministers in Sofia, Bulgaria, on June 28, 1956. OSJD consists of the transport ministries and central governmental bodies in charge of rail transport from 27 countries. Its main tasks are to coordinate the development of international freight and passenger traffic in Eurasia, to develop international transport law, to improve the competitiveness of rail corridors, to coordinate transport policy for international passenger and freight rail transportation and to participate in concerted action on railway operation technical and organisational matters.

In 1996, based on a research on freight traffic between Europe and Asia, OSJD approved a list of its main rail corridors. The map of major rail routes (or corridors) was drawn up using the documents and resolutions of the Second and Third Pan-European Transport Conferences, the TRACECA (Transport Corridor Europe-Caucasus-Asia) development guidelines, the European Agreement on Main International Railway Lines (AGC) and the Intergovernmental Agreement on the Trans-Asian Railway (TAR) under the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

The definition of international transport corridors used by OSJD: "An international transport corridor is a complex of surface railroads and ferry links, with up-to-date equipment, which are intended to concentrate international transit with minimal timings of freight and passenger transportation, and high operational and economic performance."

All OSJD corridors are divided into three categories:

- latitudinal (East-West);
- longitudinal (North-South); and
- intermediate, between latitudinal and longitudinal corridors.

The main criteria for corridors are:

- a corridor must follow a main railway, which handles or is destined to handle significant international passenger and freight traffic;
- a corridor must meet international technical requirements or must be upgraded in accordance with the AGC;
- a corridor must cross several countries (with at least one border crossing); and
- a corridor must provide the shortest link between freight producers and consumers.

At present, OSJD has 13 rail corridors connecting Europe and Asia (see Figure 22, Annex 1). It is clear from the map that some of them compete with one another, for example Corridors 1, 2, 5, 6 and 10 competing for container traffic between Europe and Asia. All corridors are long distance (up to 10,000 km) and most of them have two one-way gauge connections (1435-1520-1435 mm).

OSJD continuously monitors the technical and operational performance of all 13 corridors and their equipment, collects data about the infrastructure of border-crossings points and works to improve freight transport processes. This has enabled the organisation to make proposals for improving international rail traffic in transport corridors between Europe and Asia. Interested countries have signed a memorandum of cooperation regarding these corridors, which was used as a basis for coordinated modernisation and development.

Since the beginning of the 21st century, efforts to develop rail routes between Europe and Asia have been promoted under the Euro-Asian Transport Links project (EATL) launched by UNECE. The project is conceptually based on the Common ECE/ESCAP Strategic Vision for

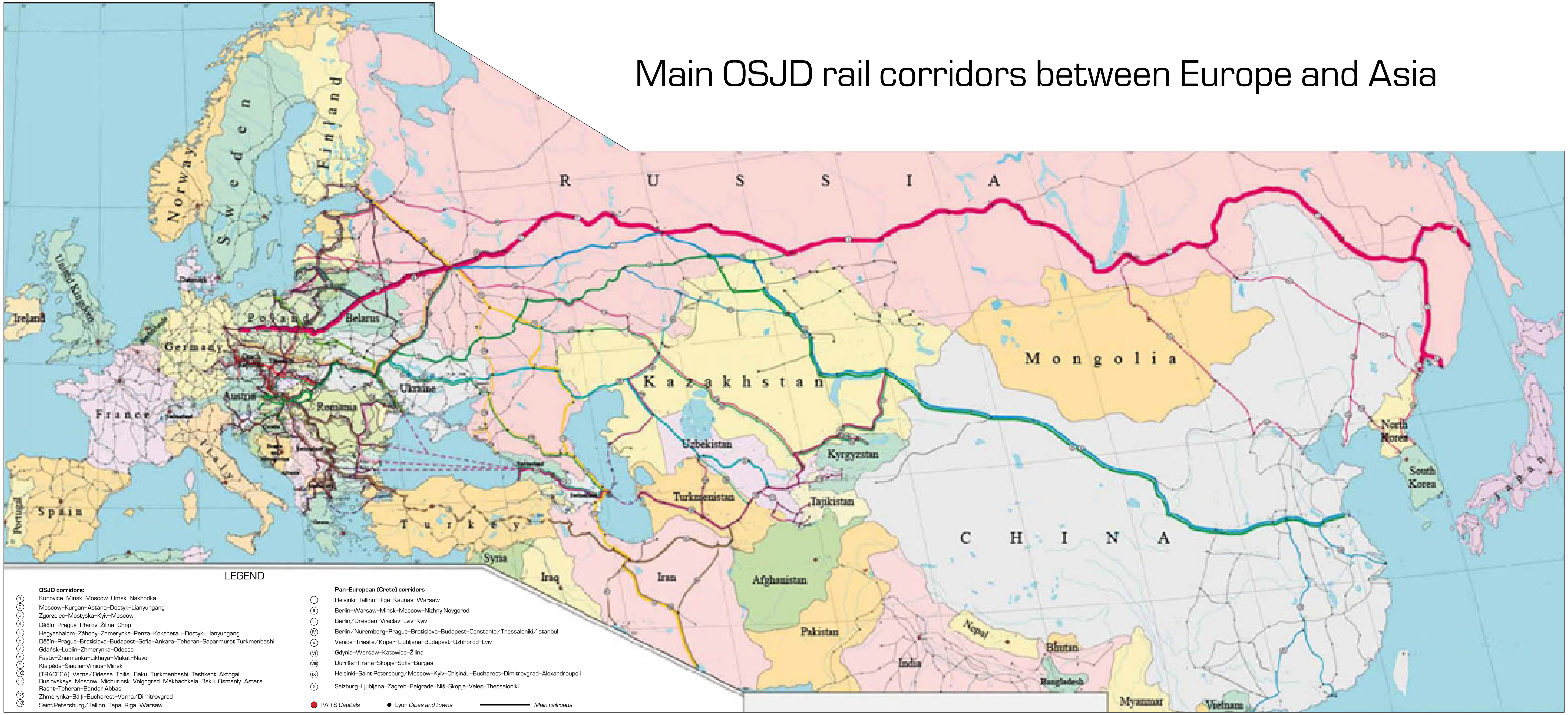

Figure 22.
Main OSJD rail corridors between Europe and Asia

Source: OSJD

Euro-Asian Transport Links[1] adopted in 2001. In 2003-2007, Phase I was implemented as part of the larger UN project on "Capacity Building in Developing Interregional Land and Land-Cum-Sea Transport Linkages". Four Expert Group meetings on the development of Euro-Asian transport links, which were held in Almaty (March 2004), Odessa (November 2004), Istanbul (June 2005) and Thessaloniki (November 2006), identified the main rail, road and internal water connections between European and Asian transport networks. One of the key outcomes was the development of a joint methodology for evaluating and prioritising projects on selected Euro-Asian routes, which corresponds with the Master Plan of the Trans-European Railways (TER)[2]. The experts also identified key non-physical barriers that hinder the development of Euro-Asian transport links.

After Phase I was completed, UNECE and UNESCAP published a joint study[3], which described Euro-Asian routes, their current condition and the issues affecting international traffic at Euro-Asian inland transport corridors. The study included recommendations on how to develop infrastructure and facilitate the transit and intergovernmental cooperation in order to solve technical and operational issues, to remove non-physical barriers and to improve the efficiency of transit and border crossing.

Phase II was implemented in 2008-2012 by UNECE, without UNESCAP (because of budget problems). During Phase II EATL routes were extended to nine other countries which had joined the project, and the total number of participating nations reached 29[4]. Phase II identified nine motorway and nine railway routes (see Figure 23, Annex 2), and 17 internal water Euro-Asian routes (including 52 river ports and 70 seaports) which play vital role in the network of Euro-Asian transport links. A total of 311 transport infrastructure projects, worth $215 billion, were identified in these routes, including 188 projects ($78 billion) which were identified as top priorities.

An important component of project's Phase II was a study comparing the existing Euro-Asian maritime and rail freight routes. Nine scenarios[5] were analysed and calculations for each of the scenarios demonstrated that rail transport, in all cases, is more efficient than maritime transport in terms of time of delivery. Intermodal transportation, where rail transport is combined with maritime and road transport, is also a realistic and competitive option, provided that governments and railways cooperate in harmonising transport legislation and that border crossing procedures are simplified. Phase II resulted in the joint Expert Group Report[6], which was presented at the 75th session of the UNECE Inland Transport Committee (Geneva, 26-29 February 2013) and at the Second EATL Ministerial Meeting, which took place simultaneously. Representatives from 43 countries and almost all the international organisations involved in EATL development took part in the Ministerial Meeting, at which the Joint Statement on

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[1] Common ECE/ESCAP Strategic Vision for Euro-Asian Transport Links. Document TRANS/WP.5/2001/14. UN Economic Commission for Europe. Inland Transport Committee. Working Party on Transport Trends and Economics, November 21, 2001.

[2] Discussion between Ministers of Transport of Countries in the Euro-Asian Region on the Future Development of Euro-Asian Transport Links. Main results of the United Nations Development Account funded project on developing Euro-Asian transport links. Note by the secretariat. Document ECE/TRANS/2008/12 for Item 2 of the provisional agenda of the Seventieth session of the Economic Commission for Europe, Geneva, January 30, 2008.

[3] Joint Study on Developing Euro-Asian Transport Linkages. ECE/TRANS/184. New York and Geneva, 2008, 218 p.

[4] Afghanistan, Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, China, Croatia, Cyprus, Finland, France, Georgia, Germany, Greece, Iran, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Mongolia, Pakistan, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Spain, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, Uzbekistan.

[5] Euro Asian Transport Links. Inland vs. Maritime transport: Comparison Study. UNECE, Geneva, 2010. 79 p.

[6] Euro-Asian Transport Linkages. Phase II. Expert Group Report. ECE/TRANS/230. United Nations, New York and Geneva, 2012, 597 p.

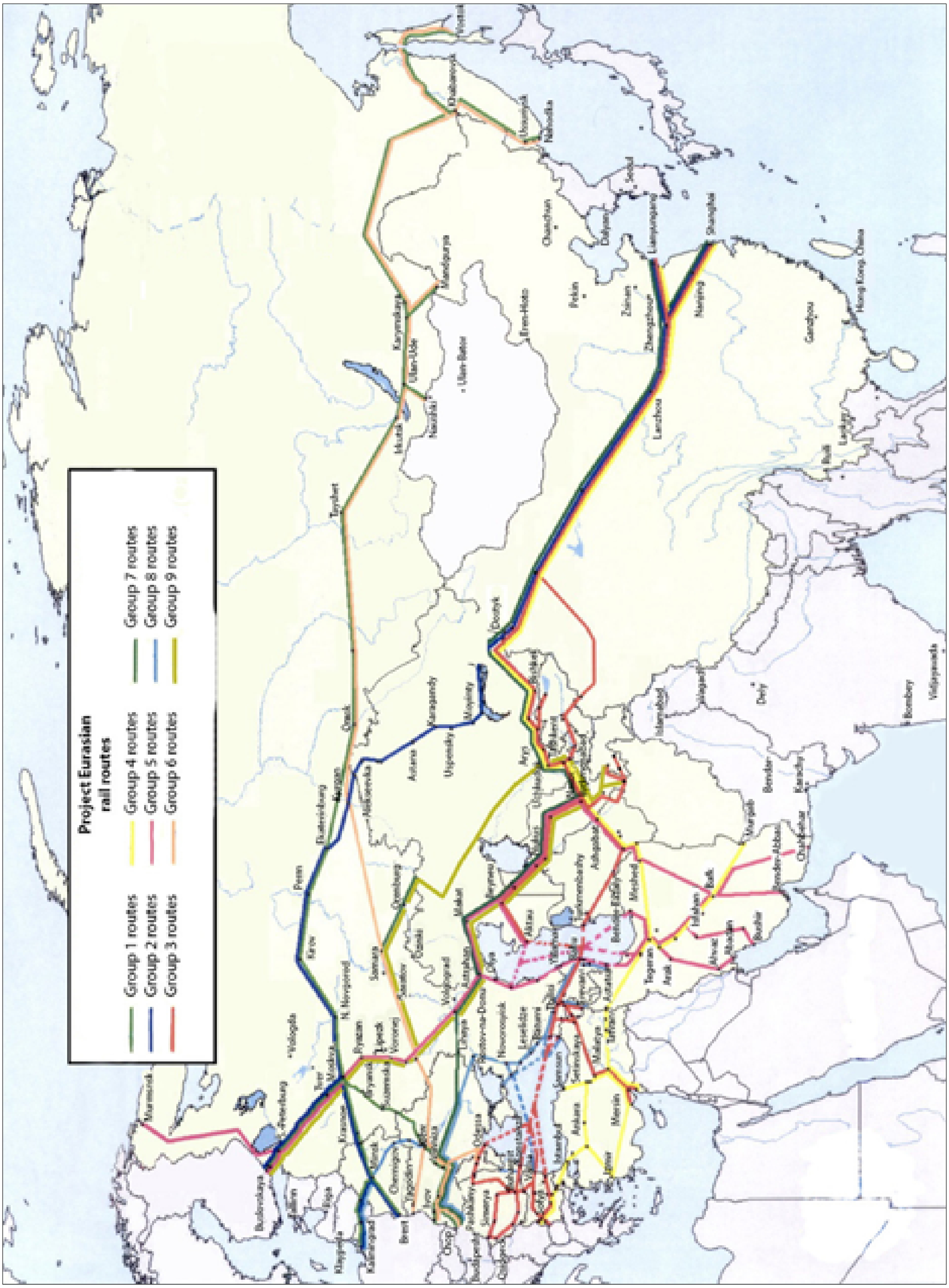

Figure 23.
Euro–Asian rail routes in the UNECE EATL Project

Source: UNECE

Future Development of Euro-Asian Transport Links[7] was signed. The UNECE Inland Transport Committee approved the extension of the EATL project for two years (2013–2015) and asked the UNESCAP Secretariat to co-organise Phase III of the project[8]. The Eighth EATL Expert Group Meeting on September 9, 2013 in Geneva approved the plan for implementing Phase III of the project.

In recent years, transport politicians and experts in SES countries have actively discussed the competition between two groups of rail freight routes between Europe and Asia:

- the North-South corridor railways along the western and eastern coasts of the Caspian Sea; and
- Northern (Trans-Siberian and its branches) and Southern (TRACECA) corridors, running from west to east.

SES countries have adopted different approaches to both these corridors. Russia, for example, insists on prioritising the development of the Trans-Siberian route and its branches and is not a member of the TRACECA Intergovernmental Commission. Kazakhstan is more interested in developing Southern and Northern west-east routes and is simultaneously participating with Turkmenistan and Iran in the development of the North-South corridor running along the eastern coast of the Caspian Sea.

In 2013 the Kazakh-Turkmen section of the Uzen (Kazakhstan)—Kyzylkiyak—Bereket—Etrek (Turkmenistan)—Gorgan (Iran) railway was completed. The railway is about 700 km long and is part of the North-South Transport Corridor. The expected freight traffic by the fifth year of operation is over 10 million tonnes. In the long term, traffic is expected to exceed 20 million tonnes. The new route will be more than 600 km shorter than the existing routes through Beinau—Turkmenabat—Saraghs, and the journey time will be reduced by approximately two days. According to the Kazakh Ministry of Transport and Communications, the project (worth $620-650 million) will be paid off within ten years at full load.

The Iranian Ministry of Roads and Transportation is building the 150 km Gorgan—Gonbad-e Qabus—Ince—Barun terminal section on the border with Turkmenistan. The investment in the project is made up of 85% private capital and 15% state funding. The general contractor is Pars Energy.

Tajikistan's official accession to the TRACECA intergovernmental agreement, which is expected to take place during a major international transport conference planned on September 3-4, 2014 in Ashgabat, will provide impetus for the development of the North-South corridor along the eastern coast of the Caspian Sea.

2.3. Road Transport Development and Its Competitive Advantages

Over the last 23 years, competition between road transport and railways for freight and passenger traffic has been particularly acute in Eurasia. The distribution of surface traffic between road and rail transport (apart from by pipeline) changed significantly. Road transport made its most significant gains in Belarus and Kazakhstan (see Figures 24-26).

In recent decades, road traffic has been growing not only in Eurasia, but also in other regions of the world, as roads have carried an ever greater share of passenger and freight transportation. Road transport has become more competitive for the following reasons:

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[7] Joint Statement on Future Development of Euro-Asian Transport Links. Geneva, on 26 February 2013, p. 2.

[8] Report of the Inland Transport Committee on its seventy-fifth session. Document ECE/TRANS/236. Economic Commission for Europe, Geneva, May 28, 2013.

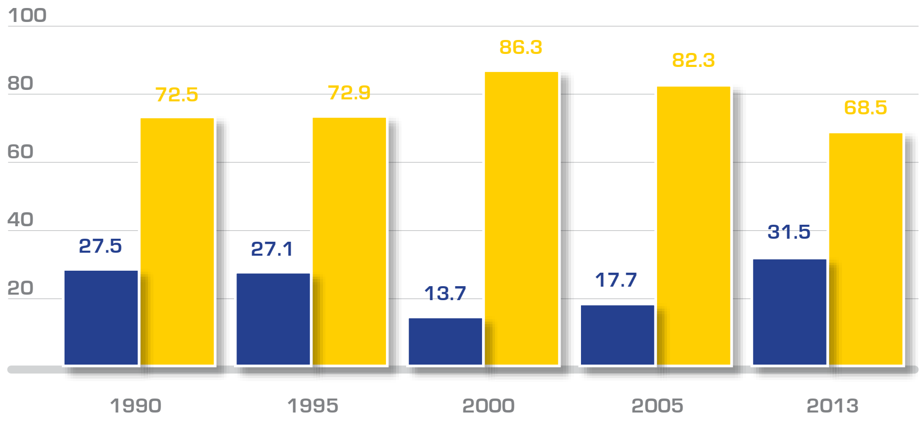

Figure 24.
Road and rail transport's share of the freight turnover (except pipelines) in Belarus (1990–2013, %)

Sources: Belstat, Rostat, Kazstat

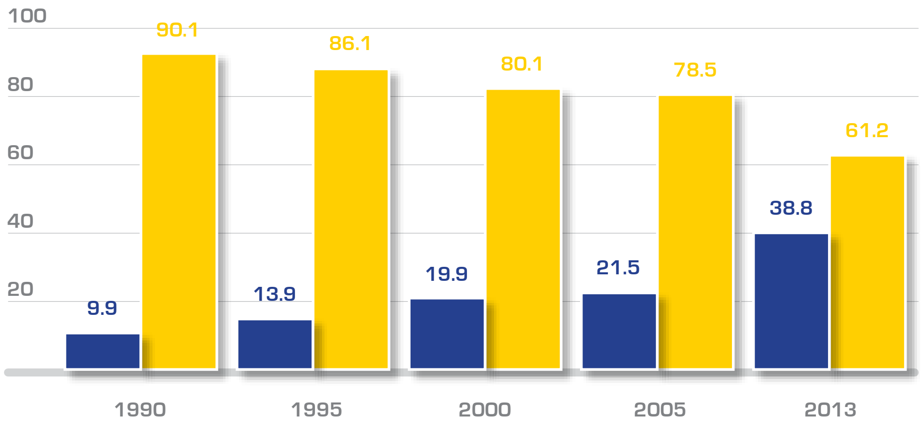

Figure 25.
Road and rail transport's share of the freight turnover (except pipelines) in Kazakhstan (1990–2013, %)

Sources: Belstat, Rostat, Kazstat

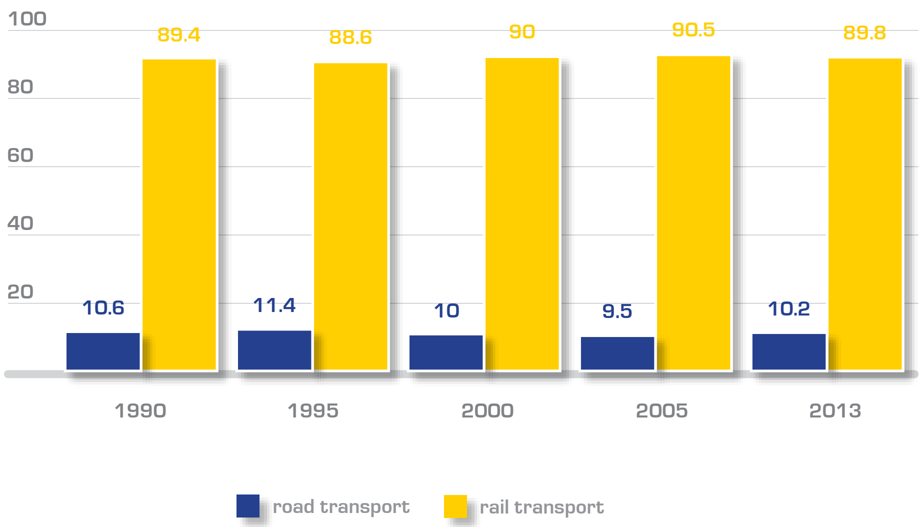

Figure 26.
Road and rail transport's share of the freight turnover (except pipelines) in Russia (1990–2013, %)

Sources: Belstat, Rostat, Kazstat

1. Economic and market access liberalisation has allowed consignors, logistics companies and freight forwarders free choice as to the mode of shipment;
2. Development and modernisation of the road network means more roads now meet international standards and requirements (such as the European and Asian road standards as established by the European Agreement on Main International Traffic Arteries (AGR) of 1975 and the Intergovernmental Agreement on the Asian Highway Network of 2004);
3. There have been significant advances in automotive engineering particularly with regard to fuel efficiency, reliability, environmental performance (from January 1, 2014, the Euro 6 environmental standard came into force for trucks), freight diversification and adaptation to market demand, freight safety and size of shipment;
4. The economic role and number of SMEs interested primarily in small shipments has increased;
5. Road transport has logistical advantages in that it delivers freight directly from producers to consumers without transhipments ("door-to-door");
6. Costs can be significantly reduced if a 'backhaul' load is guaranteed and the shipment is therefore circular;
7. Costs can be further decreased where consignors can load and consignees can unload freight on their own;
8. There has been a dramatic growth in the number of logistics and freight-forwarding intermediaries operating in the market; who optimise timings, routes and cost of shipment by using road transport more widely;
9. The documentation procedure for freight transported by road has been simplified and uniform accompanying documents and waybills such as CMR and other waybills are now used universally;
10. There are significant advantages associated with the use of road transport for international surface shipments, including the use of generally recognised guarantees such as T1, T2, TIR carnets and other systems In addition the border-crossing procedures have been simplified (as an effect of joining of more countries to the 1982 International Convention on the Harmonisation of Frontier Controls of Goods); and
11. Many producers have expanded their own railcar fleets, which has created a sizeable market in "private" freight shipments, which do not involve other modes of transport.

Over the last 20 years, all countries have generally seen the competitiveness of rail transport improving for medium- and long-distance freight shipments. Increases in average distances travelled by road was due to the road transportation becoming more economical and increased competition on one hand, and freight shipments become more oriented towards highly processed goods, and increased use of international road shipments on the other. These trends are observed to their full extent in SES countries, especially in Kazakhstan and Russia, where the average distance travelled per tonne of freight has doubled over the past 22 years, from 19.5 km to 39.4 km, and the competitive area of using the road transport has quadrupled from 450 km to 1,800 km over the same period (see Figure 27).

Similar processes have been observed in the EU. According to Eurostat[9], in 2006-2011 the average distance travelled per tonne of freight increased by 6%. In 2011, the average distance

[9] http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Road_freight_transport_by_journey_characteristics Average_distance_travelled.

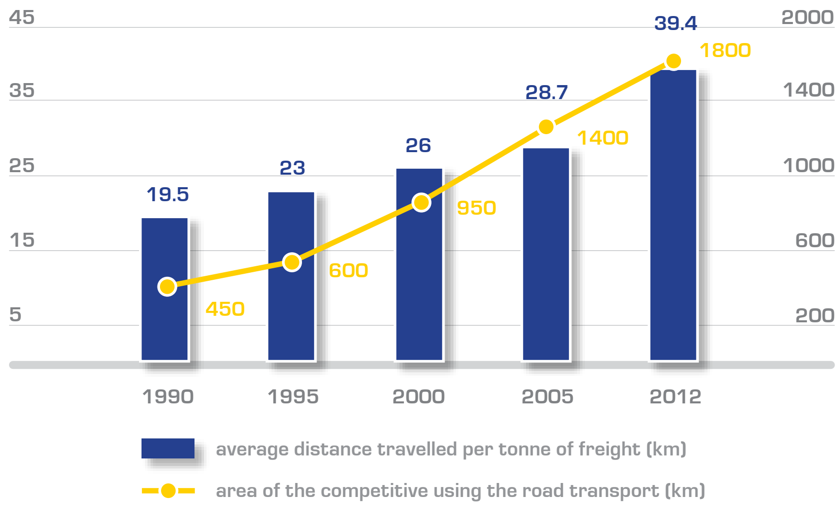

Figure 27.
Growth in the average distance of road transportation and the competitive area of using the road transport in SES member states (1990–2012)

Sources: Kazstat, Rostat, IRU estimates

travelled per tonne over all 27 EU countries was 116 km; the average distance travelled domestically was 84 km, and internationally – 596 km. Lithuania and Latvia had the longest haulage distances (467 km and 225 km respectively). The shortest distances were in Cyprus and Greece (36 km and 45 km respectively). In most countries the average distance travelled per tonne of freight is growing steadily. In Lithuania, for example, this indicator went up from 159.3 km in 2000 to 467 km in 2011 (2.9 times).

Besides distance travelled, there are other criteria of distribution of traffic between transport modes:

- duration of delivery;
- cost of delivery;
- non-discriminatory or discriminatory restrictions in access to transport services; and
- quality of services.

According to recent data collected by the International Road Transport Union (IRU)[10], the territory where road transport dominates indisputably is that of shipments delivered within one business day. Taking into account the working time and rest provisions established by the European Agreement Concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR), this corresponds to a distance of between 450 km and 500 km. In SES member states, if a second driver is employed (and taking into account road conditions and congestion), this distance is estimated at 600–700 km. Any distance in excess of this costs more because of the additional expense involved in allowing rest time for drivers and the cost of secure truck parking. For this reason the carriage of goods by road over two or more days is suitable for small batches of perishable or valuable goods, which need to be delivered from the consignor to the consignee directly without transhipment.

The indisputable advantage of road transport in this regard is the accuracy of the delivery . It is now a generally accepted practice to make a vehicle available to the consignor in a strictly specified time, from which the start of transportation service in calculated.

According to the above IRU study, the average cost of haulage in the EU in 2004 was €1.13 per km for a standard 20-tonne lorry, and for non-EU countries €0.67 per km. Therefore, the cost

[10] Selected recent statistics on road freight transport in Europe. IRU, Geneva, 2006.

of delivery of a standard 20-foot container for 500 km would be €565 for EU countries and €335 for non-EU countries.

If the cost of transporting goods equates to an average 10% of their cost, it can be calculated that road transport becomes economical at a threshold cost of goods of €280 or more per tonne in Central and Eastern Europe (for distances up to 500 km).

For many types of freight there is no alternative to using road transport for medium and long distances. These include perishable goods, live animals and all goods carried internationally under customs and insurance guarantees (TIR carnets, etc.). According to the IRU[11], road transport accounts for over 90% of all surface haulage globally in terms of cost (in terms of value of goods) and about 80% in terms of volume (measured in tonnes). It also accounts for 85% of freight carried by all types of transport for distances shorter than 150 km. Nevertheless, commercial trucks make up a mere 1% of all vehicles registered in the world.

At present, about 80% of enterprises in all sectors and settlements in Russia do not have access to any routes other than motorways. Therefore, the cost of goods, labour productivity and the competitiveness of most sectors depend on the competitiveness of road transport. The relatively poor standard of motorways, in the context of the growing use of cars, causes significant increases in costs, reduction in speed, lengthy idle time and higher accident rates.

In the last ten years the number of cars in Russia has increased by 85%, while the length of motorways and streets in cities and towns has grown by 16% and 4.5% respectively. This means that the use of cars is growing at a much higher rate than the length of highways and city streets.

Market segmentation is driven by competition, which combines consumer demand and producers' capability to manufacture competitive products and provide competitive services. The capacity of road transport enterprises to compete and achieve effective results is complicated by their need to adapt continuously to changing conditions. This means that the competitiveness of road transport requires scientific analysis.

A peculiarity of the road transport sector is that it encompasses many different operations and services. Such features are associated not only with the organisation of freight and passenger traffic, freight-forwarding services, and technical improvement of vehicles (to ensure their safe operation), but also with the road network meeting consumer demand (in terms of continuity, optimal speed, capacity, operating correctly equipped vehicles at any time of the year and in any weather conditions, and the high level of maintenance services required).

The emergence in the road transport market of new, small enterprises (under different types of ownership), individual entrepreneurs and joint stock companies increases the number of production facilities in the market. This can result in higher costs and can have an impact on financial results. The main barriers to new competitors in the sector are that the market is already well supplied in services by existing enterprises and individual entrepreneurs with a loyal customer base, and the need for capital, since effective competition requires significant initial investment. The reverse is also true, i.e., if the number of emerging small enterprises is insignificant, risks are lower and prices/incomes can be increased. The impact this has on competition in the sector depends, to a significant extent, on the entry barriers, i.e., the cost of entering the sector.

Road transport enterprises, whose services must meet demand efficiently, can also escalate competition. Some businesses may have competitive advantages, e.g., non-stop or limited-stop buses, shared taxis on bus routes, special haulage trucks, etc. Obstacles to substituting services include price competition, which shifts consumers' attention from quality to lower fares;

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[11] This is IRU 2013. Driving progress since 1948. IRU Annual Report. Geneva, 2013.

the influence of advertising; or the emergence of new services of higher quality. We should point out that the growing demand for road transport services results in moderate competition while providing wider opportunities for expansion. Therefore, a reduction in demand is the main threat to competition.

Road transport enterprises can exert pressure by threatening to raise fares or by decreasing the quality of services. A group of road transport enterprises or an enterprise is considered as dominant if it meets the following criteria:

- a higher market share compared to other providers of similar services;
- no need to compete with other providers of similar services; and
- services are of crucial importance to freight owners in the region.

Consumers of road transport services try to reduce prices and obtain higher–quality services and thereby escalate competition. Consumer strength lies in their cohesion and concentration, the importance of road transport services to them, the homogeneity of services provided and the level of consumer awareness.

Competing road transport enterprises make use of tactical measures such as fare reductions, advertising, or the provision of additional services and guarantees to consumers.

The intensity of competition between functioning road transport enterprises is determined by:

1) the number of competing companies or balance of capacity between them;
2) the speed of development of road transport companies;
3) the level of fixed costs, such as overheads or inventory costs;
4) the provision of different road transport services by functioning enterprises and individual entrepreneurs;
5) the growth of facilities aimed at developing road transport; and
6) the entry barriers, for all road transport services.

Therefore, we can conclude that competition in the road transport market and between road and rail promotes the provision of competitive services. The degree if competition is determined by quality and by the cost indicators of the services provided, which are comprehensively evaluated by consumers in terms of their relevance, satisfactoriness and costs.

2.4. Transport Policies: Stimulating Competition or Promoting Comprehensive Interaction between Transport Modes. The EU Experience and its Relevance to Eurasia

An important objective of transport policies in SES member states is to develop comprehensively all modes of transport. Not only is there a need to meet the transportation demand of population and economies, it is important also that the technical and economic aspects that make each mode of transport as efficient as it can be should be taken into account[12].

To this end, the area of efficient use of transport needs to be identified. An area of efficient use is the economic maximum distance that can be travelled by a mode of transport to deliver freight and passengers efficiently. The distance is calculated by analysing the cost of delivery and the

[12] Dmitriyev V. Calculation Methodology and Economic Indicators for Distributing Shipments between Transport Modes (Дмитриев В. Методика расчетов и экономические показатели для распределения перевозок между видами транспорта. М.: Транспорт. 1966. 524 с.).

quality indicators of transport services (such as the speed of delivery, freight security, etc.) in a competitive transport market, these distances will depend not only on technical and economic conditions or the specific characteristics of a transport mode, but also on the geographic location of the transport infrastructure and production facilities in the country, the level of competition in the transport market, the development of international trade and economic ties and other factors[13].

Optimising the use of transport modes in passenger and freight transportation is strongly connected with the policy of "modal shifts" for freight and passenger flows (from road to rail, inland waterways and coastal sea transport for freight, or from private cars to rail and buses for passenger flows). This principle is one of the key aspects of the transport policies in the EU.

The main objectives of SES transport policies should take account of the EU experience in optimising the use of transport modes and modal shifts.

These objectives were established in the White Paper European Transport Policy for 2010: Time to Decide[14] adopted in Gothenburg in June 2001, and which identified the following objectives to be met by 2050:

- phasing out of conventionally–fuelled cars in cities;
- increasing the use of low–carbon fuel in aviation to 40% of total fuel consumed;
- reducing harmful emissions from maritime transport by at least 40%; and
- shifting 50% of passenger and medium–distance road freight traffic (from city to city) to rail and waterborne transport.

These measures will make it possible to reduce harmful emissions from transport by 60% by the middle of the century. Inland water transport, which is the most economical in terms of fuel consumption, and the most environmentally friendly, is expected to play an important part in this process.

Section 2 of a subsequent EU White Paper, Roadmap to a Single European Transport Area—Towards a Competitive and Resource Efficient Transport System[15], published in March 2011, identifies A Vision for a Competitive and Sustainable Transport System, according to which 30% of road freight carried over 300 km should shift to other modes such as rail or waterborne transport by 2030. The target increases to more than 50% by 2050.

The European Conference of Ministers of Transport (ECMT) makes the following recommendations to national governments in order to rationalise transport and shift freight flows to the railways:

1. More competitive railways

Governments and rail companies have to create the conditions for sustained improvements in rail freight performance in terms of cost, quality and reliability of service. This is primarily a matter for the commercial policies of rail companies but governments could facilitate:

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[13] Tolkacheva M., Yepishkin I. Rail Transport Economics. Textbook for Rail Economic Transport Studies at the (Rail Transport) Enterprise Economics and Management Department (for intramural and extramural students). (Толкачева М., Епишкин И. Экономика железнодорожного транспорта. Учебное пособие по дисциплине «экономика железнодорожного транспорта» для студентов специальности «экономика и управление на предприятии (железнодорожного транспорта)» очно–заочной формы обучения.– М: МИИТ, 2009. 268 с.).

[14] White Paper: European Transport Policy for 2010: Time To Decide, COM(2001) 370.

[15] White Paper. Roadmap to a Single European Transport Area—Towards a Competitive and Resource Efficient Transport System. Document COM(2011) 144 final. European Commission. Brussels, 28.3.2011.

- creation of independent businesses within national rail companies to concentrate on freight services and free to optimise labour inputs in what is basically a capital and technology intensive industry;
- separation of freight traffic from inter–city passenger traffic on a limited number of trunk freight corridors to reduce scheduling conflicts or allow longer freight trains to be run, where this is feasible and where net social benefits are expected on the public investments required;
- interoperability by encouraging cooperation between rail companies, consistent with competition law and national policies towards the creation of competition in rail markets;
- the creation of non–discriminatory conditions for competition in rail freight markets.

2. Quality road haulage

Governments must improve enforcement of regulations on road vehicle loading limits, vehicle maintenance and road safety.

- Following the truck fire on March 24, 1999 in the Mont Blanc tunnel, pre–existing minimum safety distances between trucks were strictly applied at other French tunnels. This had the effect of sharply reducing the nominal capacity of all the tunnels. In illustration, traffic diverted from Mont Blanc increased average traffic in the Frejus tunnel to 4,000 trucks a day. The long tail–backs that developed indicated capacity was saturated even though in 1998, under prevailing operating conditions at that time, capacity had been estimated to be 8,000 trucks per day.

3. Harmonised competition

Competitive conditions must also be harmonised by determined Government action to develop and enforce effective regimes for social working conditions in road haulage.

4. Planning for intermodality

Governments must coordinate land use planning to ensure railheads and terminals can be retained and developed where they can best serve freight markets, and better coordinate policy towards the location of industrial, commercial and residential developments that generate major traffic demands.

Public money may be required to assist the development of inland waterway and rail head logistics centres, and notably for combined transport operations.

5. Investment

Public money has to be provided, and conditions for increased private investment created, for major infrastructure projects designed to increase trunk freight rail infrastructure capacity and increase productivity, subject to a positive socio–economic assessment of the benefits expected.

Notable examples include base tunnels through the Alps and other mountain barriers and the structure or loading gauge increase planned for UK bridges and tunnels on lines serving main ports to accommodate larger containers.

In order to safeguard funding, improvements in rail productivity and quality of service are essential to reassure governments that they will see results and get value for money.

Funding on this scale will require robust economic assessment identifying clearly the socioeconomic expected returns.

6. Forecasting

Investments to improve the quality of road infrastructure and increase capacity in places where there are congestion, must be based on strong demand forecast on road transport as the most appropriate mode of transport. The efficiency of such investments must be assessed at a network as well as local level and take adequate account of prevailing distortions in transport charges.

7. Efficient charges and taxes

In the long term, the government should ensure that all cargo carriers have the same conditions of use of road and rail infrastructure and inland waterways through the system of charges and taxes levied on infrastructure use. In the short term, changes in rates and structures of charges that do not move in this direction should be avoided.

Efficient use of existing infrastructure would be promoted by charges based on short run marginal social costs, including external costs, and requires a greater degree of territorial differentiation of charges than presently exists in the road sector in order to reflect costs that differ by region.

At the same time, where there is congestion, it is important also to include some incentives for efficient development of infrastructure, i.e. reflecting capital infrastructure costs, in the charging systems adopted.

8. Investment of road charges

Earmarking of funds raised from charges on roads for investment in rail is being considered by some governments. This can be useful on a limited scale, both for achieving public acceptance and overcoming shortages of public money for investment. When applied in a generalised way it requires careful design and monitoring to manage the inherent risks of economic distortion.

9. Subsidies

Some governments see public subsidies to freight train operating costs, particularly in combined transport, at least as a temporary measure, to achieve the scale of modal transfer sought.

Some governments provide this support by maintaining infrastructure use charges below short run marginal costs, others target aid specifically to operations where modal transfer can be demonstrated.

Maintaining operating subsidies over the long term will distort markets. One argument employed to justify such transfers is under-charging for the use of roads by trucks, however, this is not a long term alternative to getting the charges right as the ultimate effect would be to over-inflate demand for freight transport services as a whole and exacerbate the associated costs in terms of congestion and environmental impact.

10. Road use restrictions

Regulations limiting the use of roads by trucks exert an influence modal split although there, in some cases, can be problems of compatibility of such physical limitations with the objectives of trade policy. All aspects of the costs and benefits of such measures must be carefully considered in each case.

An example is the ban on night time driving for trucks in Switzerland, this alters the logistical costs of moving goods, for example between Italy and northern Europe, in favour of rail and particularly combined transport.

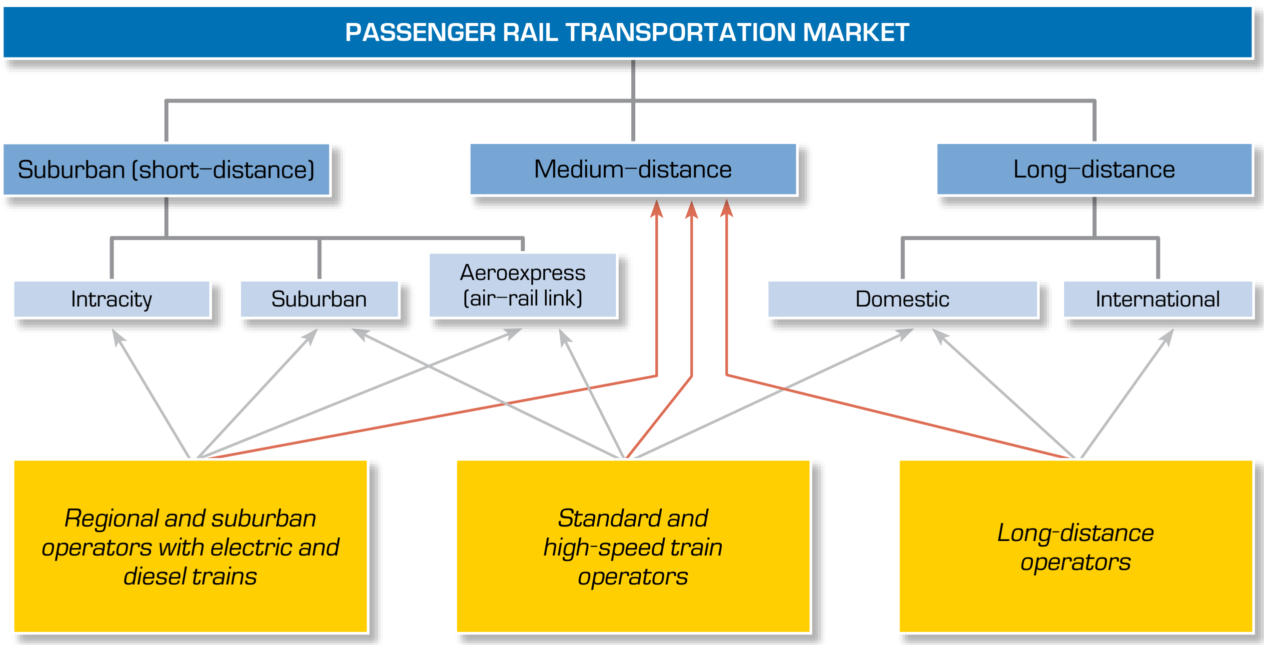
Restrictions on specific itineraries and limitations on truck movements for specific periods appear more acceptable than blanket restrictions such as national quotas for truck movements. Measures to re-route traffic, for example to by-pass a town or village, can also be effective in addressing localised environmental problems in some cases.

Weekend and national holiday driving restrictions, however, require much more effective provision of information to shippers to avoid trucks being stranded at frontiers.

3. Passenger Rail Transport in SES Member States

Traditionally, the passenger rail transport market is divided into three main segments depending on the distance travelled (see Figure 28).

Figure 28.
Segments in the passenger rail transportation market



The suburban segment covers the areas around cities and urban agglomerations, usually within 100–150 km. It traditionally includes transport provided by electric and diesel trains which stop within a city. As a result of rail reforms in some SES countries, suburban and regional passenger companies were formed to operate in this segment.

Medium-distance journeys are those taken on a single railway in the territory of one or two neighbouring regions (usually within 500–600 km). Medium-distance traffic is positioned between suburban (short-distance) and long-distance traffic and can be offered by regional or long-distance operators. The European experience suggests that standard and high-speed trains are the most competitive in this segment.

Long-distance journeys, as a rule, exceed 600 km and include international (interstate) links.

The passenger transportation market is characterised by the tougher competition that exists between railways and other modes of transport. As distinct from the freight market, competition here, in addition to public buses, includes private cars (for short and medium distances) and civil aviation (for long distances). Rail passenger traffic itself offers different speeds and travel times, fares, availability of train services, regularity and accessibility.

The passenger transportation market is broader than the freight market in terms of requirements for the transport network, personnel, etc. The main challenges for rail transport are to improve the efficiency of passenger transportation and to address the unprofitability of certain passenger services (particularly suburban ones).

Institutional changes in the area of rail transport in SES countries have significantly affected the passenger transportation market.

Currently, this market is very different in each of the SES countries. Their key characteristics are summarized below.

Belarus

Belarusian railways transport about 100 million passengers per year to and from the capitals and regional centres of Russia, Ukraine, Moldova, Lithuania, Latvia, Kazakhstan and Western Europe. The domestic rail network links more than 2,100 cities, towns and settlements.

The dynamics and structure of passenger traffic in Belarus, in terms of numbers and passenger kilometres and by types of distances travelled (including average distance travelled per passenger) are provided in *Table 9* and *Figure 29*.

Type of distance	2000	2005	2008	2010	2011	2012	2013
Passenger traffic (million people)							
suburban and intracity	149.8	89.1	71.9	67.9	72.5	81.6	81.8
intercity and medium-distance	9.8	7	7.5	8.3	9.1	10.4	10.6
international	8.2	8.4	8.6	7.4	7.4	8.5	8.1
Passenger traffic (million passenger km)							
suburban and intracity	12,857	5,800	3,416	2,987	3,198	3,574	3,534
intercity and medium-distance	2,654	1,880	1,981	2,168	2,408	2,766	2,851
international	2,211	2,671	2,791	2,423	2,335	2,695	2,592
Average distance travelled per passenger (km)							
suburban and intracity	85.8	65.1	47.5	45.3	44	44.1	43.8
intercity and medium-distance	270.8	268.6	264.1	263.7	261.2	264.6	266
international	269.6	318	324.5	324.7	327.4	315.5	317

Table 9. Passenger traffic in terms of numbers, passenger kilometres and average distance travelled per passenger in Belarus (2000–2013)

Source: Belstat

Passenger services are operated by Belarusian Railway (Belaruskaya chyhunka), which has six passenger divisions and six depots in Minsk, Brest, Gomel, Mogilev and Vitebsk. The company's control offices supervise the distribution and uptake of seats in passenger trains. The country has 20 large railway stations with developed infrastructure and passenger services. Passenger ticket sales are fully automated via the Express-3 automatic control system.

Passenger transport is unprofitable for Belarusian Railway. Only 60–70% of the cost of long-distance journeys are covered by fare revenues, and only 20% of suburban journey costs are covered by fare revenues (see Figure 30).

Since 2010, Belarusian Railway has been implementing its New Concept of Passenger Transportation, a project which identifies a comprehensive set of

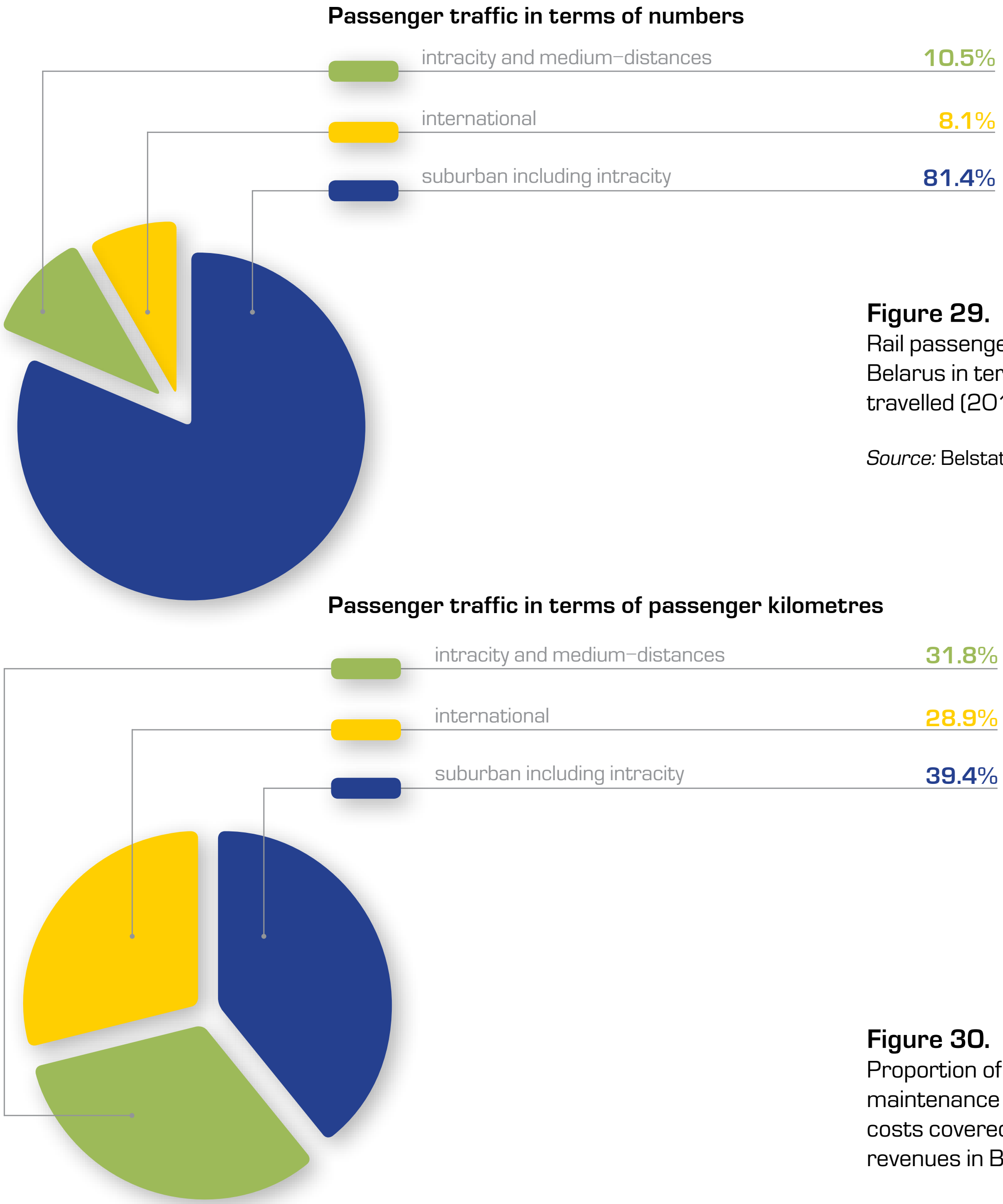
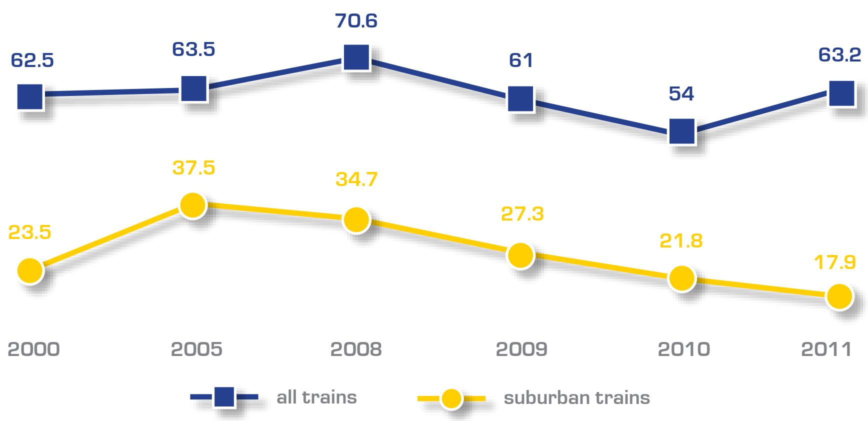


Figure 29.
Rail passenger traffic in Belarus in terms of distance travelled (2013, %)

Source: Belstat

Figure 30.
Proportion of train maintenance and operating costs covered by fare revenues in Belarus (%)

Source: Belstat



measures to meet passenger demand for transport services effectively with the use of new technology and up-to-date rolling stock.

The project aims to develop and improve intracity rail traffic, as well as regional, interregional and international transport links. It divides rail traffic into urban, regional (business and economy class), interregional (business and economy class), international, and commercial lines. Starting from 2011, intracity lines were launched within Minsk and its satellite towns. The first line from the Minsk Passazhirsky station to the Belarus station was launched as a pilot on July 1, 2011[1].

On September 10, 2011, regular traffic was launched on this first route. 28 times per day trains run between the Minsk Passazhirsky and Belarus stations in both directions. During the first nine months of 2013, the line carried 1.45 million passengers.

On November 7, 2013, a second route was opened between Minsk Passazhirsky and Rudensk, with nine trains running in both directions daily.

Regional lines transport passengers within administrative regions and beyond, to railway stations in the nearest city or town in the neighbouring region, but no further than its centre. The first regional business-class train departed on November 19, 2011 from Brest. On May 1, 2012, regional economy-class trains were launched.

Now, passengers are carried between Minsk-Passazhirsky–Zhdanovichi–Zaslawye and Minsk-Passazhirsky–Kolyadichi–Rudensk by modern EPg series trains. Regular business-class electric trains service the Minsk–Baranovichi, Baranovichi–Brest, Minsk–Orsha, Minsk–Babruysk, Minsk–Žlobin, Orsha–Krychaw–Kommunary, and Mogilev–Kommunary routes.

In December 2013, Belarus took its first delivery of business-class, five-coach electric trains produced by Stadler Bussnang AG (Switzerland). From 2014 these trains will be used on the Minsk–Baranovichi–Brest line.

Interregional lines carry passengers between Minsk and regional centres, and between particular regional centres. It is intended that these commercial passenger railway services will operate on contractual terms, however these had not been launched as at March 2014.

At the end of 2013, Belarusian Railway owned 1,700 passenger carriages. The average life of a passenger carriage is 23 years and fleet depreciation is calculated at 56%.

Kazakhstan

Kazakhstan's passenger transport market is very different from that of Belarus. There are several reasons for this, primarily that suburban and intracity transportation is mainly serviced by buses; there are physically fewer services and this sector is smaller. Kazakhstan also has a longer average distance travelled domestically and internationally.

The dynamics and structure of passenger transportation, in terms of numbers, passenger kilometres and travel distances, and the average distance travelled per passenger in the country, are shown in *Table 10* and *Figure 31*.

Following reform of the railways in Kazakhstan, passenger transportation services were separated from infrastructure operations. Passazhirskiye Perevozki, a state-owned subsidiary of Kazakhstan Temir Zholy (KTZh), was set up in 1998, and in 2002 it was reorganised into a joint-stock company. Two years later, further restructuring led to the formation of seven subsidiaries in the form of joint stock companies: Almaty Railcar Repair Plant; Vokzal-

[1] City lines, www.rw.by

Distances	2008	2009	2010	2011	2012	2013
Passenger traffic (million people)						
suburban	2.8	3.3	3.43	3.69	3.96	4.16
domestic	10.75	10.86	12.07	13.1	16.44	18.18
international	4.2	4.49	4.06	3.72	3.95	3.87
Passenger traffic (million passenger kilometres)						
suburban	0.3	0.4	0.4	0.5	0.6	0.61
domestic	10.2	10.5	11.5	12.6	14.8	16.07
international	4.2	3.8	4.1	3.5	3.9	3.92
Average distance travelled per passenger (km)						
suburban	107.1	121.2	116.6	135.5	151.5	146.2
domestic	948.8	966.9	952.8	961.8	900.2	884.1
international	1,000	846.3	1,009.9	940.9	987.3	1,012.3

Source: Kazstat

Table 10.
Passenger traffic in terms of numbers, passenger kilometres and average distance travelled per passenger in Kazakhstan (2008–2013)

Service; Prigorodnye Perevozki; Bagazhnye Perevozki; Passenger Railcar Leasing Company; Vagonservice; and Zholserik–Almaty (renamed as Zholaushylartrans in 2005). On December 25, 2004, a government resolution granted Passazhirskiye Perevozki the status of national carrier.

Passazhirskiye Perevozki now comprises four branches (Southern, Western, Northern and Express) and three subsidiaries (Prigorodnye Perevozki, Vagonservice, and Passenger Railcar Leasing Company), all 100% state-owned. The company carries passengers, luggage, freight and post, domestically and internationally, and maintains, repairs and operates passenger trains.

The Ministry of Transport and Communications, which carried out the railway restructuring programme, was the first in the post-Soviet space to subsidise passenger operators who serve socially important routes.

In addition to its national state-owned operator, Kazakhstan also has private passenger carriers. One of these is Turan Express, which was set up in 2006 and has a fleet of over 100 passenger carriages. Turan Express operates several domestic routes (including Astana–Almaty), some with premium-service trains. The company also operates in carrying small freight and luggage by luggage cars, provides first-class carriages, rotational carriages, and has an additional bus transportation business.

Speeding trains is one area of passenger transport that is being promoted in Kazakhstan. Tulpar, the first speed train, was launched in 2003 between Astana and Almaty and reduced travelling time from 22 to 12 hours. Over the last ten years, the frequency and capacity of high-speed trains have increased significantly. Kazakhstan is the leader among SES countries in terms of the growth of passenger traffic (both in terms of numbers and passenger kilometres).

In 2013 two new speeding trains were launched on the Astana–Atyrau and Almaty–Atyrau routes. Another five trains (Astana–Kyzylorda, Almaty–Aktobe, Astana–Oskemen and Almaty–Oskemen) and the international speeding Almaty–Tashkent train are due to be launched in 2014.

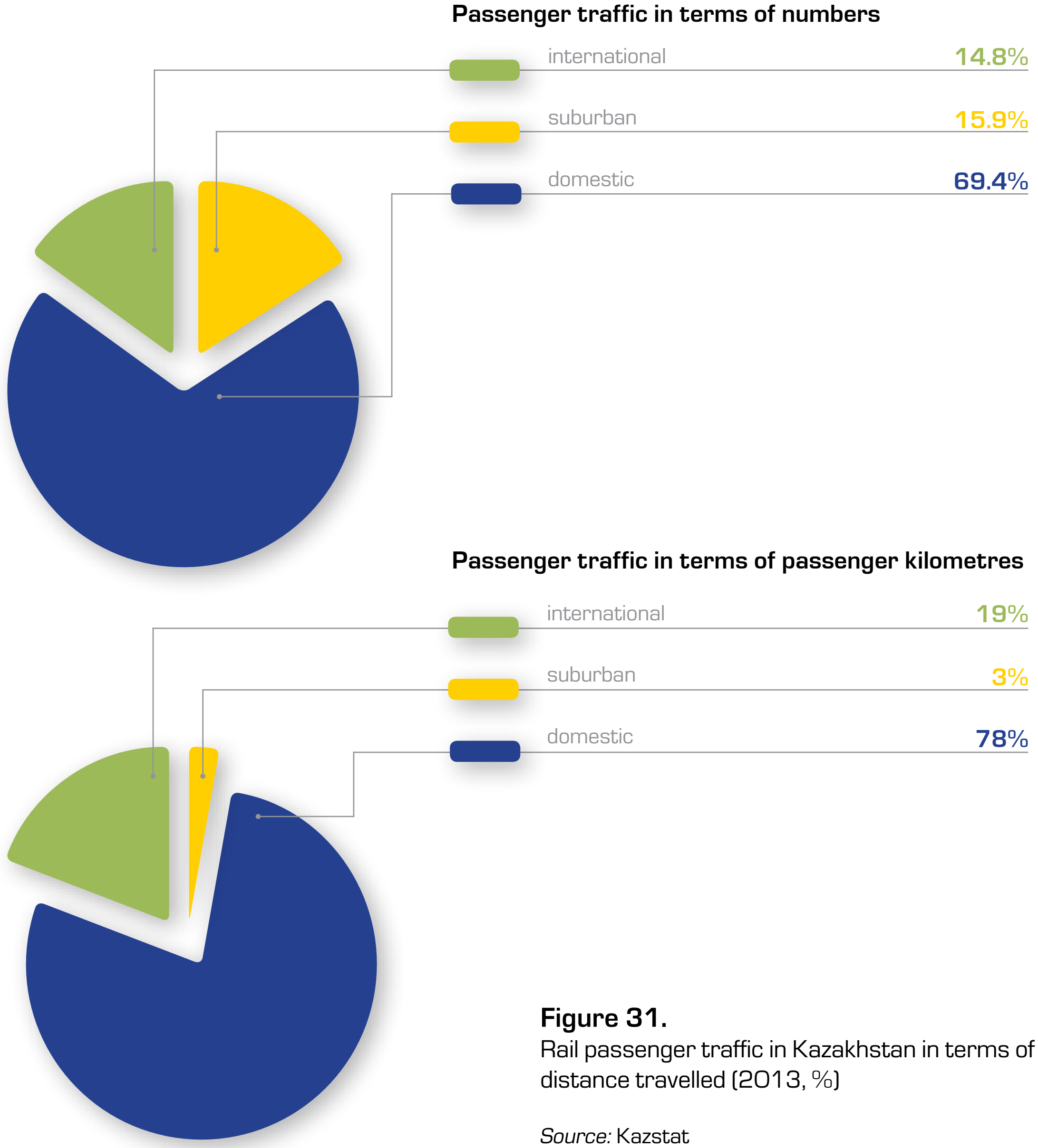


Figure 31.
Rail passenger traffic in Kazakhstan in terms of distance travelled (2013, %)

Source: Kazstat

Russia

As distinct from other SES countries, most of Russia's passenger traffic is carried by suburban trains. In 2013, such services accounted for 88% of all rail passenger traffic (see Table 11 and Figure 32).

The unprofitability of suburban traffic and the lack of funding in most Russian regions have resulted in a reduction in suburban traffic and a shift of passenger flows to other types of transport, primarily buses. The steady increase in the use of cars in Russia also resulted in a shift of some passenger flows to personal cars. An exception to this general trend is an increase in rail passenger transportation from Russia's urban agglomerations to airports on special speeding commuter trains (Aeroexpress).

The average distance travelled per passenger on domestic and international trains was approximately 1,000 km, a figure which increased slightly in 2008–2013. Over the same time

Distances	2008	2009	2010	2011	2012	2013
Passenger traffic (million people)						
suburban*)	1,160	1,019	832	878.3	932.1	951.4
long-distance**)	136	118	115	114.7	126.4	128.2
international***)	0.4	0.3	0.3	0.2	0.3	0.3
Passenger traffic, million passenger kilometres						
suburban*)	46.8	38.5	27.9	28.2	21.8	24
long-distance**)	129.1	113	111	111.4	122.8	123.9
international***)	0.4	0.3	0.3	0.2	0.3	0.3
Average distance travelled per passenger, km						
suburban*)	40.3	37.8	33.5	32.1	23.4	25.2
long-distance**)	949.3	957.6	965.2	968.7	971.2	966.5
international***)	1,017.6	1,005.4	1,012.9	1,029.7	1,056.2	1,064.7

Notes: *) suburban and intracity traffic;
**) long-distance and international traffic;
***) international traffic by Russian railways (not including passengers travelling on foreign trains)

Table 11.
Passenger traffic in terms of numbers, passenger kilometres and average distance travelled per passenger in Russia (2008–2013)

Source: Rosstat; passenger traffic in 2012–2013 is our estimate

period, the average distance travelled by suburban passengers decreased from 40 km in 2008 to 25 km in 2013. This affected suburban traffic's share of total rail passenger traffic. In the last six years, suburban traffic has decreased by 18% in terms of passenger numbers and almost halved in terms of passenger-kilometres.

While suburban traffic indicators stagnated, long-distance traffic declined at lower rates. In recent years, passenger preference for bus travel (for medium distances) and air travel had an increasingly significant effect. For example, a bus journey between Moscow and towns in the European part of Russia is cheaper than a ticket on a train in non-compartment coach. Moreover, because of current subsidies, a flight from Moscow to Khabarovsk is also cheaper than travelling by a night long-distance train.

The increase in rail passenger traffic in 2011–2013, both in terms of numbers and passenger kilometres (see Table 11), was primarily due to the development of speeding rail services, particularly between Moscow and St. Petersburg.

International traffic carried on Russian trains is relatively insignificant, totalling 300,000 people. In 2013 Russian trains accounted for a mere 1.5% of all international rail traffic between Russia and other countries. Almost all international passenger journeys between Russia and other SES countries were on trains owned by Kazakh operators or Belarusian Railway.

The structural reform of the rail transport sector in Russia has significantly influenced passenger travel, especially for suburban and long-distance transportation.

Russia's structural reform programme encouraged the setting up of specialised operators – suburban passenger companies (SPCs). It was initially envisaged that SPCs would own trains, depots and railway station terminals to handle suburban traffic. They were to be fully or partially owned by Russian regional or municipal authorities, which would be nominated by the federal road transport agency to organise suburban rail transport and regulate rail fares. Russian legislative and executive authorities were "recommended" to compensate these companies fully for losses associated with suburban passenger traffic. The reform programme also stated that if the regional authority failed to provide subsidies to compensate for a passenger company's losses, then fares should be set at a level at least corresponding to economically reasonable

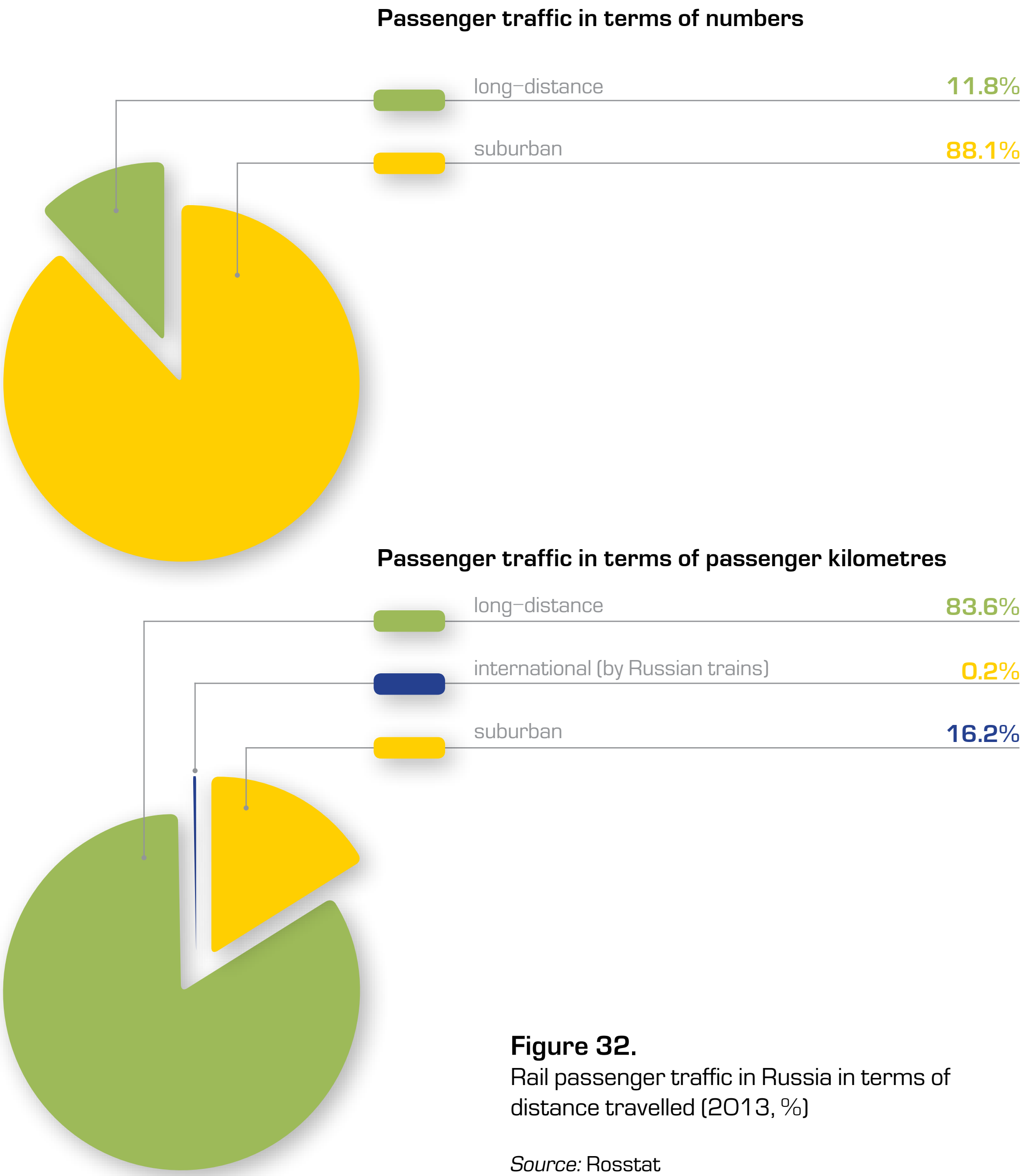


Figure 32.
Rail passenger traffic in Russia in terms of distance travelled (2013, %)

Source: Rosstat

costs. The final phase of reform made provision for the sale of fixed-period franchises for suburban passenger transportation[2].

By the beginning of 2014, many organisational reforms had been implemented in Russia. Instead of concentrating responsibility for the whole country's suburban rail traffic in the hands of the Ministry of Railway Communications, later Russian Railways, suburban traffic system is now consist of four types of authorities: federal executive authorities, Russian Railways, regional authorities and SPCs (see Figure 23).

[2] Trudov O., Alekseyev Y. Suburban Rail Traffic: Problems and Solutions. (Трудов О., Алексеев Е. Пригородные железнодорожные перевозки: проблемы и пути решения. «Экономика железных дорог». Июль. 2012).

The structural reform programme affecting suburban travel has been implemented only partially. Regional authorities and independent transport businesses have minority shares in the newly established SPCs. Moreover, SPCs have not received rolling stock, or taken over ownership of depots and other assets except for ticket selling equipment. The existing legislation is ambiguous in its provisions granting Russian regional authorities the right to regulate suburban fares; it does not oblige regional authorities to set fares or allow for subsidies to fully compensate carriers' losses where fare revenues fall short of covering the actual cost of carriage.

Rail passenger traffic in Russia remains unprofitable in most cases because most regions set fares below the cost of transportation. Only ten out of 26 SPCs have managed to operate without losses. Without subsidies from regional authorities, and with federal subsidies reduced, Russian Railways has had to cover losses associated with suburban traffic.

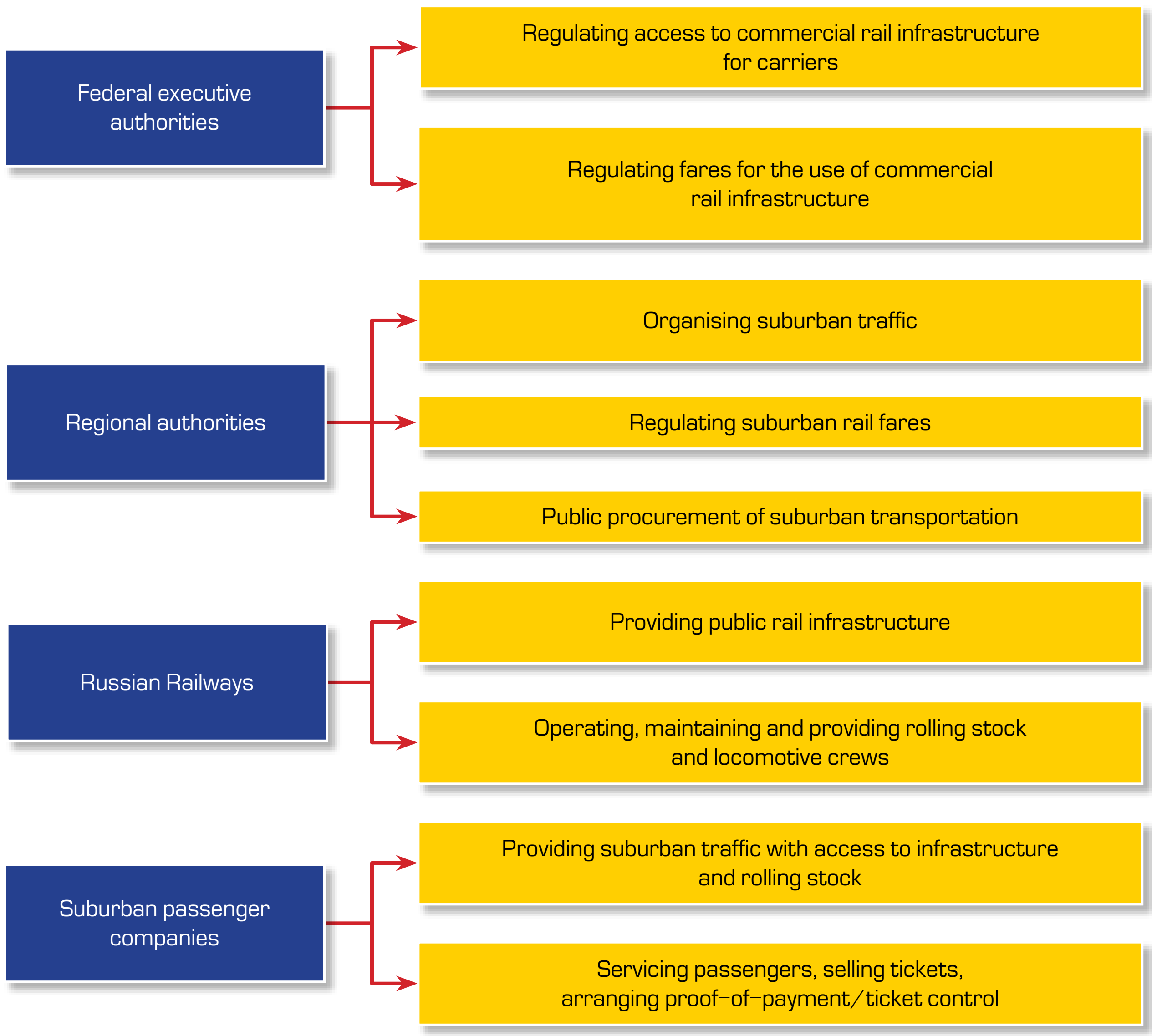


Figure 33.
Entities engaged in providing suburban passenger traffic in Russia

According to Russian Railways, since 2010, the SPCs' debt to Russian Railways, which is not paid by regional authorities, was 36.6 billion roubles and the SPCs themselves were underfunded by a total 7.1 billion roubles in 2013.

Russia's budget for 2014 allows only 12.5 billion roubles to cover the losses of Russian Railways associated with the provision of infrastructure services for suburban passenger traffic (half as much as was allocated for this purpose in 2012).

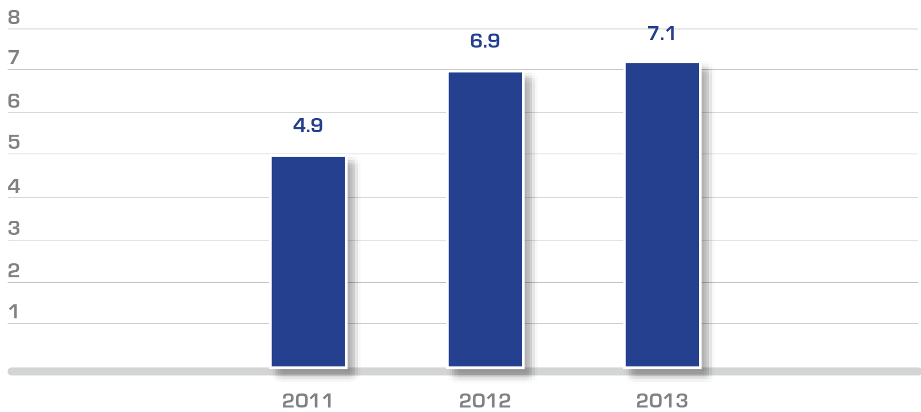


Figure 34.
Funding gap in suburban passenger transportation by rail in Russia (2011–2013)

Source: Russian Railways

On March 17, 2014, the Russian government reviewed its long-term suburban rail transportation programme and approved plans for the development of suburban rail services. In particular, the document obliges regional authorities to arrange this type of carriage by means of public orders. New proposals make it possible for local authorities to move away from using commuter rail in favour of other modes of passenger transport. Regional authorities are also obliged to regulate fares and use local budgets to compensate the losses of suburban companies. The Ministry of Transport is vested with additional powers and will be able to approve and regulate regional plans and rail traffic. The central federal authority is obliged to provide continuous and long-term (up to 15 years) financing for the maintenance of federal rail infrastructure.

The structure of Russian SPCs is provided in *Table 12*.

In addition, the suburban passenger transportation market has two operators that provide a limited-stop service on first-class trains:

- Aeroexpress (operating suburban non-stop trains connecting Moscow, Sochi, Yekaterinburg, Vladivostok and other cities with their respective airports); and
- Interregional Passenger Company (non-stop services in Saratov and Volgograd Regions).

The success of Aeroexpress is remarkable: the company has established a new market in transport services, demand for which is growing steadily, keeping the service profitable. Aeroexpress is owned by Russian Railways (25%) and private investors (75%), including 50% owned by Delta Trans Invest, a part of TransGroup AS. Aeroexpress is a member of the International Air Rail Organisation (IARO) – the international association of intermodal carriers.

In 2013, over 20.1 million passengers used Aeroexpress services in Moscow, Kazan, Vladivostok and suburban trains to Lobnya (see Table 13).

Aeroexpress operates 22 commuter trains (ED4MKM-AERO, ED4MK, ED4M, and EM2I), which perform 189 trips daily. It also owns seven up-to-date AERO trains, manufactured specially for the company by the Demikhovo Machine Building Plant, the company which accounts for over 80% of all commuter train production in SES countries.

SPC groups by ownership	SPC name	Owners
Two SPCs with over 25% of shares owned by private investors	Moscow–Tver SPC	• Russian Railways – 50% minus two shares • Tver Region – 25% plus one share • Delta Trans Invest – 25% plus one share
	Central SPC	• Russian Railways – 25% plus one share • Moscow Region – 25% plus one share • Moscow Passenger Company – 50% minus two shares
Four SPCs with 100% less one share owned by Russian Railways	Bashkortostan SPC	• Russian Railways – 100% minus one share • Zheldorreforma – one share
	Kaliningrad SPC	• Russian Railways – 100% minus one share • Zheldorreforma – one share
	Sakhalin Passenger Company	• Russian Railways – 100% minus one share • Zheldorreforma – one share
	Northern SPC	• Russian Railways – 100% minus one share • Zheldorreforma – one share
Fourteen SPCs with 50% of shares owned by Russian Railways and the rest by regional authorities	Altai–Prigorod	• Russian Railways – 100% minus one share • Zheldorreforma – one share
	Volgograd–Transprigorod	• Russian Railways – 50% • Regional authorities – 50%
	Zabaikalsk SPC	• Russian Railways – 50% • Regional authorities – 50%
	Krasprigorod	• Russian Railways – 50% • Regional authorities – 50%
	Kuzbass–Prigorod	• Russian Railways – 50% • Regional authorities – 50%
	Omsk–Prigorod	• Russian Railways – 50% • Regional authorities – 50%
	Perm Suburban Company	• Russian Railways – 50% • Regional authorities – 50%
	Saratov SPC	• Russian Railways – 50% • Regional authorities – 50%
	Sverdlovsk K	• Russian Railways – 50% • Regional authorities – 50%
	North–Western SPC	• Russian Railways – 50% • Regional authorities – 50%
	North Caucasus SPC	• Russian Railways – 50% • Regional authorities – 50%
	Chernozemye SPC	• Russian Railways – 50% • Regional authorities – 50%
	Express Primorya	• Russian Railways – 50% • Regional authorities – 50%
	Express Prigorod	• Russian Railways – 50% • Regional authorities – 50%
Five SPCs with over 50% of shares owned by regional authorities and the rest by Russian Railways	Baikal SPC	• Regional authorities – over 50% • Russian Railways – less than 50%
	Volgo–Vyatka SPC	• Regional authorities – over 50% • Russian Railways – less than 50%
	Kuban Express Prigorod	• Regional authorities – over 50% • Russian Railways – less than 50%
	Samara SPC	• Regional authorities – over 50% • Russian Railways – less than 50%
	Sodruzhestvo	• Regional authorities – over 50% • Russian Railways – less than 50%
One SPC fully owned by private investors	Perm Express	• Private investors – 100% of shares

Source: Russian Railways

Table 12.
Suburban passenger companies in Russia and their owners

Table 13.
Passengers carried by Aeroexpress in 2013

Destination	Traffic (million people)	Change in 2013 on 2012
Moscow Paveletskaya–Domodedovo airport	7.5	+7.8%
Moscow Belorussky Station–Sheremetyevo airport	6.6	+15.6%
Moscow Kiyevskaya–Vnukovo airport	2.6	+25%
Moscow Savelovskaya–Lobnya	2.5	+19.6%
Other destinations (Vladivostok–Knevichi airport, Kazan–airport, etc.)	0.9	...

In 2015 Aeroexpress plans to launch a new double-decker commuter train manufactured by Stadler Rail AG (Switzerland). A €685 million contract was signed on May 28, 2013, under which Stadler will supply 25 trains (118 carriages), including 16 four-carriage and nine six-carriage trains, by the end of 2016. New double-deckers will run between Moscow and its three largest airports.

Long-distance passenger transportation by rail is provided by Federal Passenger Company (FPC), a Russian subsidiary of Russian Railways.

FPC began operating as a carrier on April 1, 2010. It is a natural monopoly, whose passenger transportation activities are regulated by the state in accordance with Federal Law 147-FZ dated August 17, 1995 On Natural Monopolies (as amended on December 30, 2012).

FPC is the owner of all passenger carriages that were previously operated by Russian Railways. Its current fleet comprises 24,000 carriages. Locomotives and traffic control are still operated by Russian Railways.

FPC is the monopoly operator for most long-distance passenger destinations within Russia. It is now subsidised by the federal budget to cover losses associated with passenger transportation in open-plan sleepers and carriages.

The company has 15 regional branches and 96 divisions, including 38 passenger carriage depots, 36 carriage sites, 15 railway agencies, two luggage departments, four catering departments and three subsidiaries (NTS, Russian Railway Tours and FPC Logistics).

To provide high-speed rail services, Russian Railways established a special subsidiary – the Express Services Directorate – which provides high-speed services between Moscow, St. Petersburg and Nizhny Novgorod and between St. Petersburg and Helsinki.

Russian Railways contracted Siemens (Germany) to construct and supply eight speeding Velaro trains, which replaced the ER-200 speeding trains used on the St. Petersburg–Moscow line since the mid-1980s.

The Velaro RUS speeding trains (called Sapsan) started regular services on December 17, 2009. In December 2009 Russian Railways ordered another eight trains, the first two of which were delivered to Russia in December 2013. After a testing period, from January 20 to July 15, 2014, the new trains are due to be launched between Moscow and St. Petersburg in August 2014. Siemens AG plans to supply all eight trains before the end of 2014. These trains can run with two coupled train sets and this will make it possible to increase capacity without increasing the number of trains used.

In 2006, the Board of Directors of Russian Railways approved the establishment of a subsidiary – High Speed Rail Lines – which became the main enterprise building and operating high-speed railways in Russia. High Speed Rail Lines has already begun working on the Moscow–Kazan high-speed rail project.

4. Wagon Fleet and Rail Freight Market

The major challenges facing the rail freight market and the market in transport and logistics services in SES countries lie in:

- ensuring that operators (including private companies') have access to the freight base and non-discriminatory access to public rail infrastructure;
- regulating and deregulating railway rates and tariffs;
- protecting and promoting competition

Because of the nature of structural rail reform in SES countries, the main competitive market in rail freight carriage is one in which the main players are operators who own their own rolling stock.

In the last five years, the SES freight wagon fleet has increased by 19.4%, with the highest growth in Belarus (over 30%) and Kazakhstan 27.4% (see Table 14).

Table 14.
Freight wagon fleet in SES member states
(2008–2013, '000 wagons)

Description	2008	2010	2012	2013	2013 / 2008 (%)
Total wagons in the SES	1,133.2	1,146.8	1,293.5	1,352.6	119.4
including:					
Belarus	33.6	34.4	42.5	43.7	130.1
Kazakhstan	95.2	95.7	99.8	121.3	127.4
Russia	1,004.4	1,016.7	1,151.2	1,187.6	118.2

Sources: Russian Railways, Belarusian Railway, KTZh, Belstat, Rosstat, National Statistics Agency of Kazakhstan, Institute of Natural Monopolies Research (IPEM)

The high demand for rail freight carriage resulting from dynamic economic growth in SES countries in 2000–2007 led to a significant increase in the purchase or leasing of new rolling stock. Economic recovery in 2010–2012 following the worst phase of the global economic crisis also boosted demand for freight rolling stock.

The increase in the wagon fleet exceeded the growth of commercial freight traffic (not including non-public industrial rail transport) by a significant margin. This trend was evident in all the SES member states (see Table 15) and led to a reduction in the productivity of their wagon fleets, measured in net tonne kilometres per day per wagon (see Figure 35).

Table 15. Commercial rail freight traffic in SES member states (2008–2013, billion tonne/km)

Sources: Belstat, Rosstat, National Statistics Agency of Kazakhstan

Country	2008	2010	2012	2013 estimate*)	2013/ 2008 (%)
Belarus	49	46.2	48.4	41.8	85.2
Kazakhstan	214.9	213.2	235.9	222.5	103.5
Russia	2,116	2,011.3	2,222	2,159.8	102.1
Total SES	2,379.9	2,270.7	2,506.3	2,424	101.9

Note: *) Based on actual data for the first eight months of 2013

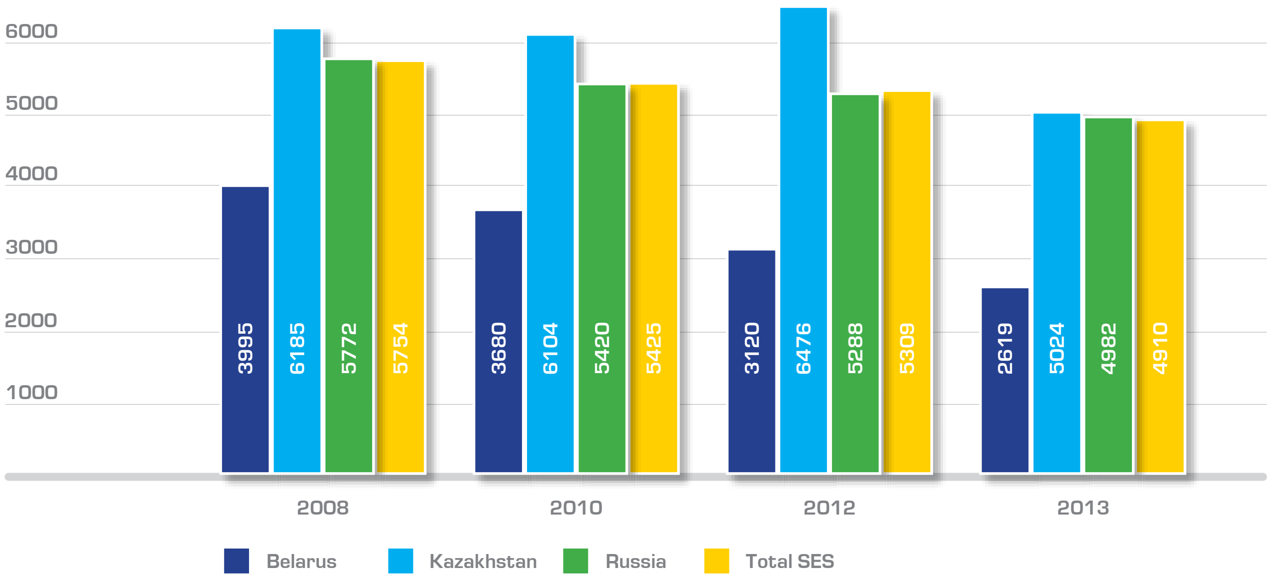


Figure 35. Productivity of the wagon fleet in SES member states (2008–2013, average net tonne kilometres a day per wagon)

The lower productivity of the Belarusian fleet is explained by the shorter average distances travelled by rail freight (314 km in Belarus compared to 800 km in Kazakhstan and 1,747 km in Russia, in 2012).

In the last five years, rolling stock has doubled, primarily because of expansion by private operators. Over the same period, national railways' fleets have shrunk

Table 16. Wagon fleets of national railways and private operators in SES member states (2008–2013, '000 wagons)

Sources: Annual Reports of Russian Railways, Belarusian Railway, and KTZh; Belstat, National Statistics Agency of Kazakhstan

Description*)	2008	2010	2012	2013	2013 / 2008, %
Wagon fleet of national railways					
including:					
Belarusian Railway	27.1	26.9	31.8	32.6	120.3
KTZh	60	52.4	37.6	7.4	12.3
Russian Railways**)	404.2	211.7	62.2	67.6	16.7
Wagon fleet of private operators and other owners:					
including:					
Belarusian operators	6.5	7.5	10.7	11.1	170.8
Kazakh operators	35.2	43.3	62.2	113.9	323.6
Russian operators***)	600.2	805	1089.3	1120	186.6

Note: *) annual average, **) not including the fleet of Russian Railways' subsidiaries and affiliates, ***) including the fleet of Russian Railways' subsidiaries and affiliates significantly (except in Belarus), and in 2013 were only 20% of the size they had been in 2008 (see Table 16, Figure 36). This was the result of national rail companies transferring to private operators, including their own subsidiaries and affiliates.

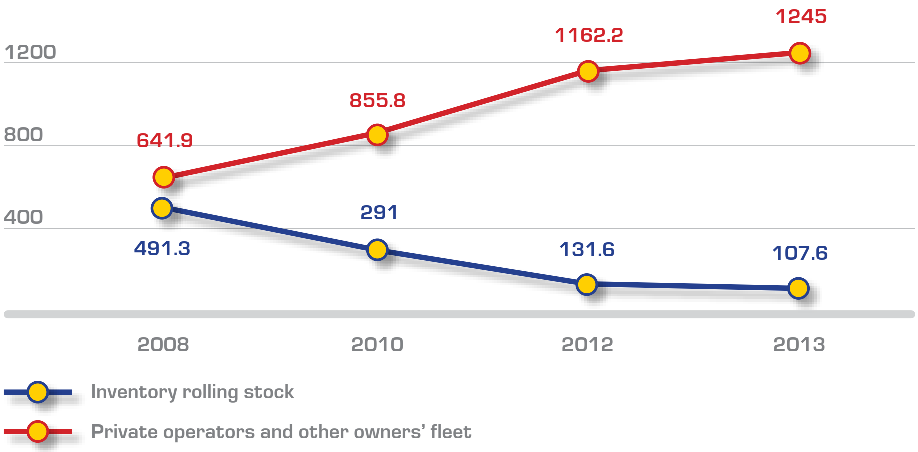


Figure 36.
Wagon fleets of national railways and private operators in SES member states (2008–2013, '000 wagons)

In Russia, more than 180,000 wagons have been transferred from the national fleet to Freight Two Company (currently Federal Freight Company), and now more than 90% of wagons are owned by operators, freight owners and leasing companies (see Figure 37).

In 2008–2013, significant numbers of new wagons were bought directly from wagon building plants. From 2003, private investment ensured the stable growth of the CIS wagon building sector, which had almost no orders by the end of the 1990s (the orders of some plants after the breakup of the USSR decreased fivefold). The development of the network of operators has catalysed growth in the sector. In the early 2000s Russian enterprises produced between

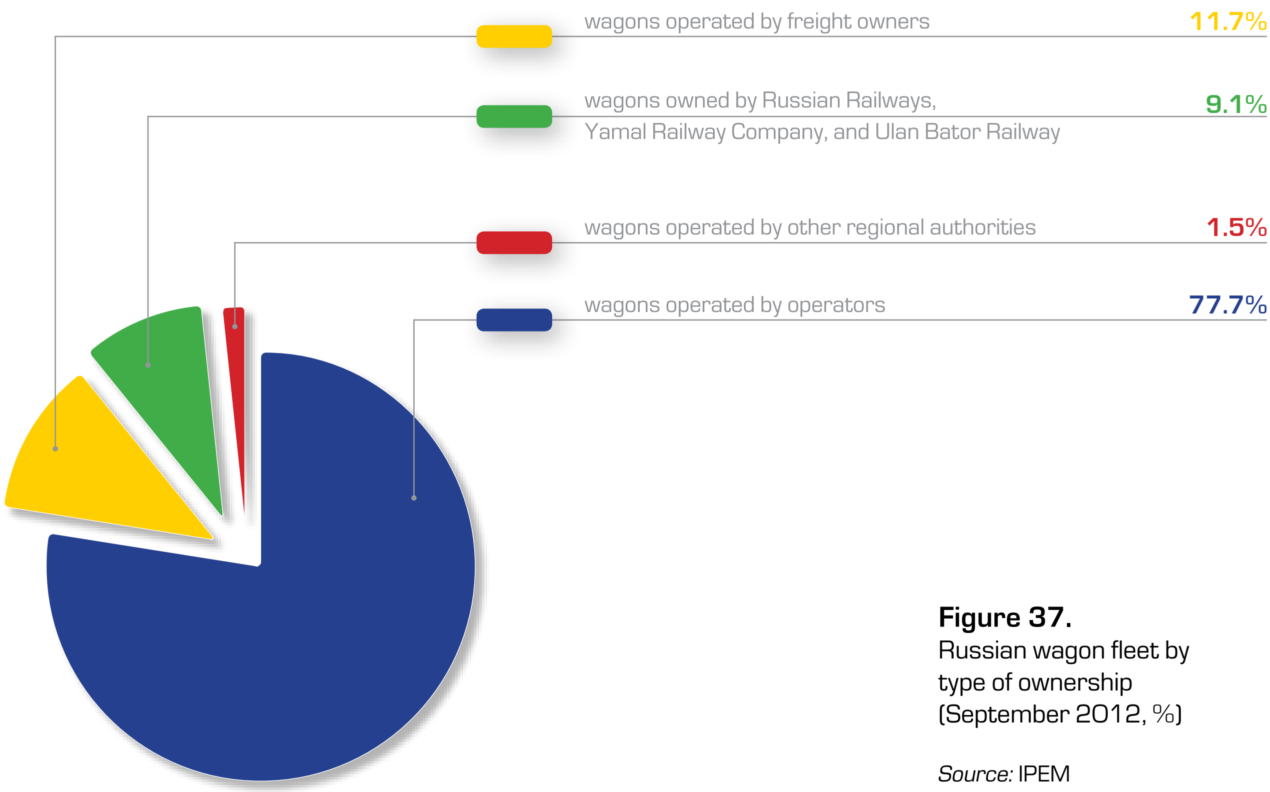


Figure 37.
Russian wagon fleet by type of ownership (September 2012, %)

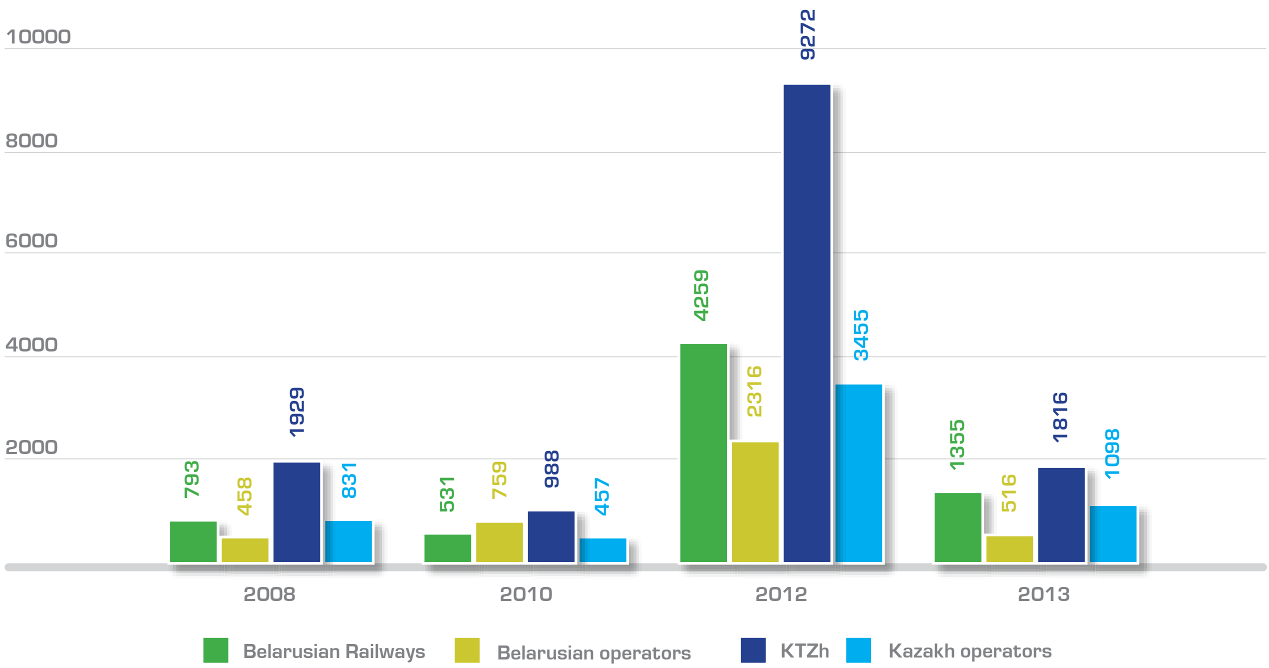
Source: IPEM

Figure 38. Purchases of new wagons by national railways and operators in Belarus and Kazakhstan (wagons)

Source: IPEM

4,000 and 10,000 wagons per year. This figure rose to 42,700 in 2008 (just before the crisis), 23,400 in 2009, and around 50,000 in 2010. It is important to note, however, that this growth was due not to state investment but to the development of the private sector, the liberalisation of the wagon component in freight rates, and competition in the transport market.

Purchases peaked in 2012: Belarus and Kazakhstan alone bought over 19,000 new wagons that year (see Figure 38).



According to IPEM, in the second half of 2012, there were 695 operators in Russia who owned wagon fleets; of these, 21 were large companies (with more than 7,000 wagons operated by each) who together owned 601,800 wagons (71.8%). The share of the two largest operators – Freight One and Federal Freight – exceeded 35%.

33 companies were medium-sized operators (with fleets of between 2,000 and 7,000 wagons), owning a total 130,400 wagons (15.6%). The remaining 641 small operators owned a total of 106,500 wagons (12.6%). These include 247 operators with a fleet of 20 or fewer wagons (averaging 7.6 wagons per company). According to IPEM, in addition to operators, 913 freight owners had their own fleets.

In Kazakhstan, the country's Transport Infrastructure Development Programme for 2010–2014 starting from 2011 led to KTZh transferring wagons to Kaztemirtrans, the country's largest operator, and deregulating the wagon component in railway tariff.

In Belarus, by the end of 2012, Belarusian Railway owned over 75% of the fleet. However, national railways' share of the overall fleet has been shrinking here too, giving way to private freight operators.

About 85–90% of the wagon fleet in SES countries has been made up of four main types of wagons: open wagons, covered wagons, tank wagons and hoppers. The structure of the fleet by type of wagons as at October 1, 2013 is shown in *Figure 39*.

The structure of the wagon fleet by country during the period under consideration, and by rail freight operator, was not homogenous. In Belarus, the private fleet is predominantly (over 80%)

Operator	2008 (as at 01/01/2009)	2010 (as at 01/01/2011)	2012 (as at 01/01/2013)	2013 (as at 01/10/2013)
Private fleet, total wagons;	390,908	516,991	891,604	931,819
including:				
Freight One	140,000	170,000	177,211	179,800
Federal Freight	0	0	175,000	178,000
VTB Leasing	5,383	34,448	54,038	58,878
VEB Leasing	0	3,782	38,717	45,254
Sberbank Leasing	0	14,117	33,083	38,411
Rusagrotrans	2,837	16,278	23,470	24,989
New Forwarding Company (Novaya Perevozochnaya)	3,412	11,290	20,322	20,277
Independent Transportation Company (NTK)	1,430	17,920	18,986	18,984
Transoil	4,752	7,159	17,313	18,027
Sevtekhnotrans	5,661	8,611	14,276	14,218
SG Trans	13,905	13,555	14,003	14,126
Transfin-M	402	1,558	9,830	14,116
Gazpromtrans	9,561	11,147	11,906	12,143
Promtransinvest	0	937	13,383	12,007
State Transport Leasing Company (GTLK)	0	0	8,501	11,617
Fintransgroup	0	795	10,047	10,659
Gaztechleasing	3,643	3,543	9,832	10,553
Netfetransservice	0	10,194	46	46
Inpromleasing LC	11,710	10,825	1,765	632

Table 17.
Russia's largest owners of wagon fleets

Sources: Annual Reports of Freight One and other operators; RBC

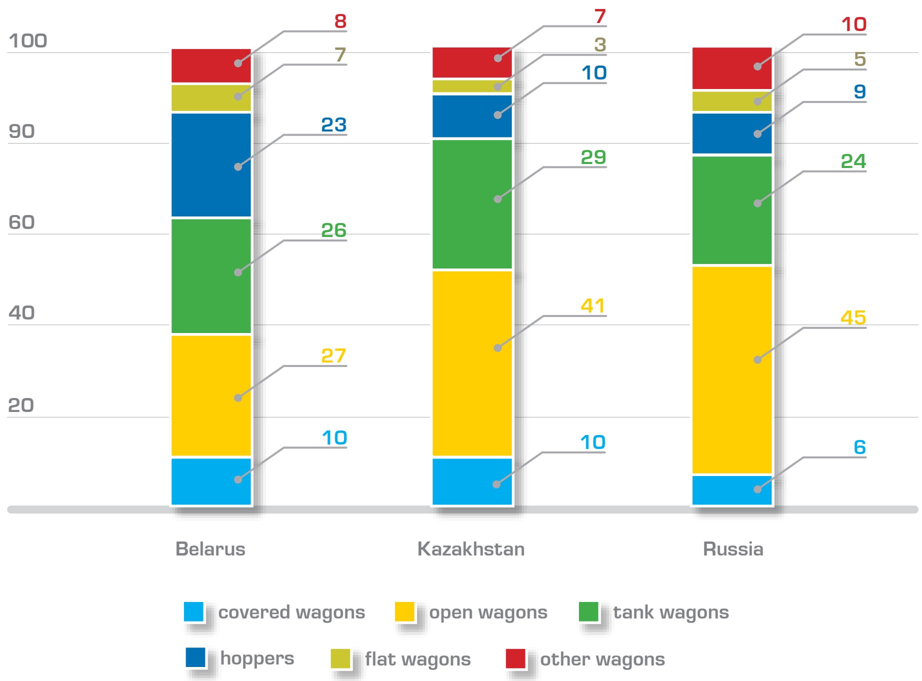


Figure 39.
Wagon fleets of SES member states by type of wagon (as at October 1, 2013, %)

Sources: IPEM, Rosstat, Belstat, National Statistics Agency of Kazakhstan, rail freight operators tank wagons, hoppers and other wagons, though such wagons form less than 50% of national railways' fleets (see Table 18).

Types of wagons	2008		2010		2012		2013	
	national	private	national	private	national	private	national	private
Total	27,062	6,471	26,947	7,482	31,763	10,743	32,626	11,047
including:								
open wagons	6,169	57	6,385	76	9,000	1,705	9,939	1,710
covered wagons	4,226	54	4,143	54	4,504	119	4,439	133
tank wagons	6,040	2,950	6,108	2,908	7,893	3,416	7,796	3,369
flat wagons	2,998	100	2,921	88	2,881	86	2,794	86
refrigerated vans	95	–	95	–	88	–	78	–
other wagons	7,534	3,310	7,295	4,356	7,397	5,417	7,580	5,749

Table 18.
Wagon fleet in Belarus (2008–2013)

Sources: Belstat, rail freight operators, RBC

Belarusian Railway owns approximately 10,000 open wagons, 8,000 tank wagons, 4,500 covered wagons (including re-equipped refrigerated vans), 4,400 hoppers (including 3,300 cement wagons, 600 grain wagons, and over 500 measuring hoppers and minerals wagons), 2,800 flat wagons, about 300 dumper cars, and 200 other types of wagon.

Belarusian operators have 4,700 hoppers (including 4,200 minerals wagons, 300 grain wagons, and 200 cement wagons and measuring hoppers), 3,400 tank wagons, over 1,700 open wagons, almost 100 flat wagons, 400 dumper cars, and about 200 autoracks.

In Kazakhstan, after KTZh transferred its freight fleet to Kaztemirtrans in 2013, the structure of the fleet changed significantly (see Table 19, Annex 3). Now the private fleet comprises over 35,000 tank wagons, 46,100 open wagons, about 11,000 hoppers (including 6,000 grain wagons, 3,000 cement wagons, 1,500 measuring hoppers, and 500 pellet wagons), 11,500 covered wagons (including re-equipped refrigerated vans), 2,100 flat wagons, and 800 dumper cars and other types of wagon.

Table 19.
Wagon fleet in Kazakhstan (2008–2013)

Sources: National Statistics Agency of Kazakhstan, KTZh, Kaztemirtrans, rail freight operators

Types of wagons	2008		2010		2012		2013	
	national	private	national	private	national	private	national	private
Total	60,007	35,166	52,410	43,305	37,559	82,152	7,373	113,890
including:								
open wagons	26,313	14,256	22,811	16,190	20,862	28,947	3,321	46,100
covered wagons	8,786	907	7,817	1,213	396	11,056	181	11,529
tank wagons	7,021	14,405	6,290	20,438	6,350	28,649	228	35,246
flat wagons	6,475	31	4,364	41	3,215	676	1,657	2,127
refrigerated vans	121	169	117	61	42	53	38	28
other wagons	11,291	5,398	11,011	5,362	6,694	12,771	1,948	18,860

The Russian wagon market differs in that its special rolling stock (tank wagons, hoppers, and other types of wagon) is predominantly owned by private operators and freight owners. All-purpose rolling stock (open wagons) is primarily owned by Russian Railways or its subsidiaries and affiliates. The structure of the national and private fleet is shown in *Table 20* and *Annex 3*.

Types of wagons*)	2008	2010		2012		2013	
	national	private	national	private	national	private	national
Total	404.9	213.8	813	70.8	1087.7	68.8	1126.5
including:							
open wagons	221.2	98.8	314.5	17	513	16.8	526.6
covered wagons	55.5	41.5	34.3	7.9	62.3	7.9	65.8
tank wagons	8.4	0.5	251.1	0.4	277.7	0.4	290
flat wagons	39.5	30.5	26.9	15.5	39.3	15.6	40.4
refrigerated vans	1	0.9	7.4	0.2	5.9	0.2	6.1
transporter wagons	1.4	1.3	...	1.2	...	1.2	...
other wagons	77.8	40.2	178.7	28.6	189.5	26.7	197.6

Table 20.
Wagon fleet in Russia (2008–2013)

Sources: Rosstat, rail freight operators, RBC

Note: *) at the end of the year

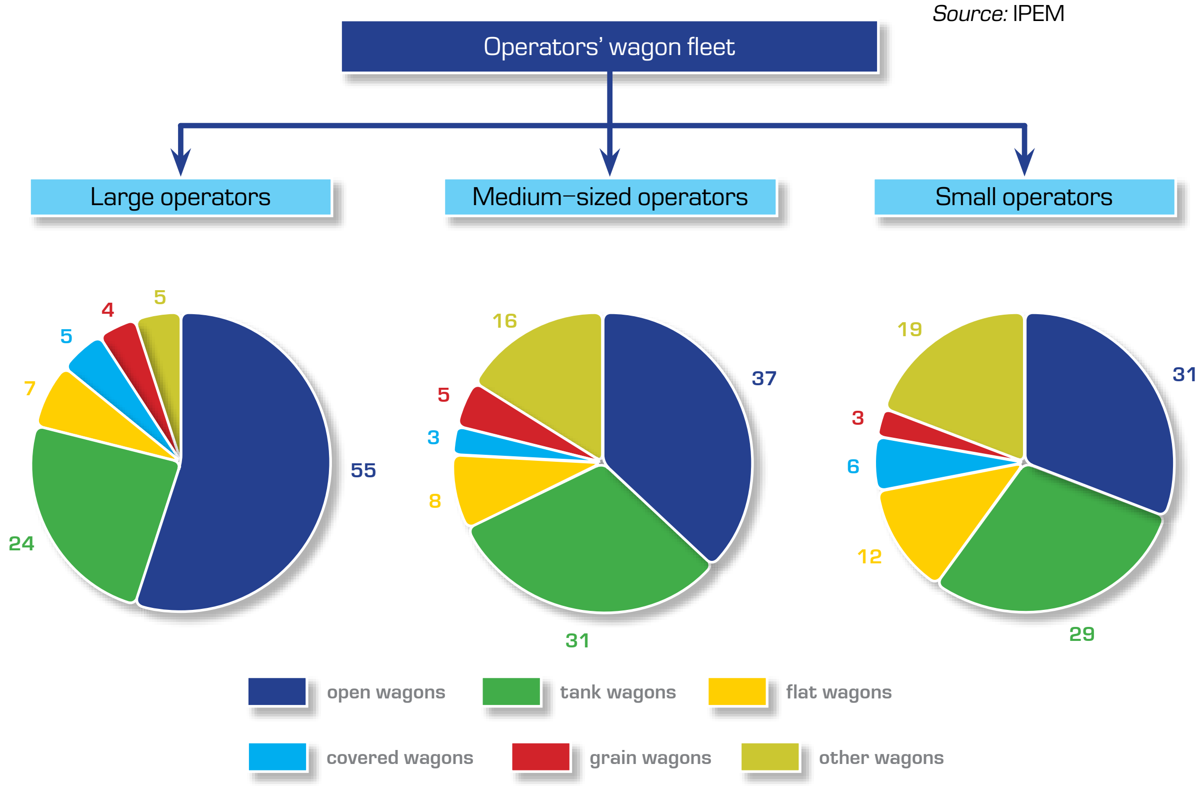
At the beginning of 2013, Freight One owned 81,500 open wagons, 55,500 tank wagons, 16,800 covered wagons, 16,600 hoppers (10,100 hoppers for cement and 6,500 for minerals), 6,700 flat wagons, and 100 wagons of other types.

As at early 2014, Federal Freight owned 125,700 open wagons, 24,100 covered wagons, more than 11,600 flat wagons, approximately 2,500 tank wagons, and about 100 chip wagons.

Other Russian companies had 320,800 open wagons, more than 218,700 tank wagons, 101,200 hoppers (37,400 grain wagons, 26,500 minerals wagons, 17,700 measuring hoppers, 15,100 hoppers for cement, 2,500 hoppers for iron pellets, 1,100 hoppers for carbon black, and over 900 other hoppers for transporting alumina, aluminium and peat), 42,200 covered

Figure 40.
Wagon fleet by groups of operators in Russia (September 2012, %)

Source: IPEM



wagons (including autoracks and re-equipped refrigerated vans), 20,200 dumper cars, 6,000 refrigerated vans, about 1,200 transporter wagons, 900 chip wagons, and 500 apatite wagons.

The structure of the fleets owned by different groups of operators varies. The larger the operator, the higher the share of all-purpose wagons in its fleet (see Figure 40).

Within the SES wagon market a trend has emerged for forming joint wagon operators and setting up branches of SES companies within other SES member states.

In the summer of 2013, Russia's Freight One and Kaztemirtrans signed a memorandum of strategic cooperation in rail freight transport and the repair of Freight One's rolling stock. They agreed to develop jointly the transport and logistics business in Kazakhstan and to allow Freight One use of KTZh-owned wagons in its Russian haulage operations. The companies also agreed that Freight One would open an office in Astana, called Kazakhstan Asia. Freight One is considering opening a subsidiary in Kazakhstan, which will own open and tank wagons. Freight One is already using its fleet in Kazakhstan, but believes that having a subsidiary in the country will improve efficiency by reducing idle time and opening up more opportunities to transport backhaul loads.

In April 2012, KTZh and UCL Rail, the Russian management company, signed an agreement to provide wagon maintenance for KTZh at the Karaganda wagon depot. This made it possible for UCL Rail to reduce the idle time of its wagons that need repairing and thus improve the performance of its rolling stock in Kazakhstan.

Another Kazakh-Russian joint venture is Astyk Trans. The company specialises in grain haulage and was set up on a 50:50 basis by Kaztemirtrans and Rusagrotrans, Russia's largest rail grain carrier. Astyk Trans' joint fleet will have approximately 10,000 grain wagons and will be capable of transporting up to 9 million tonnes of grain a year. The consolidation of the wagon fleets of Kazakh and Russian operators will help to improve transport logistics, reduce load during peak periods (due to the guaranteed availability of wagons), and improve the efficiency of grain haulage, which is the company's main aim.

On October 10, 2013, as part of the 1520 Strategic Partnership forum in Minsk (Central and Eastern Europe), the heads of the Russian, Belarusian and Kazakh national railway companies signed an agreement on establishing and operating the United Transport and Logistics Company (UTLC); a shareholders' agreement will be drafted based on this agreement.

According to Vladimir Yakunin, President of Russian Railways, Chongqing (China) has expressed interest in using SIS railways to transit Chinese goods to Europe and European goods to China. The setting up of UTLC should bring significant financial benefits to its shareholders and SES member states. According to its business plan, the company's total freight traffic will exceed 4 million 20-foot equivalent units (TEU) by 2020. The additional income for national railways from the use of their infrastructure will be around $1.6 billion by 2020. The company's cumulative contribution to the GDP of SES countries is expected to reach $11.3 billion by 2020, including almost $5 billion for Russia, about $1 billion for Belarus, and $5.3 billion for Kazakhstan[1].

Commitment to renewing rolling stock in SES countries has reduced the average age of wagons. It is worth noting that the average age of the privately owned fleet is significantly lower than that of the national railways (see Figure 41).

The average age of wagons in Belarus has decreased in recent years to 22 years for Belarusian Railway and 12 years for private operators as at October 1, 2013. In 2011-2012, Belarusian Railway reduced the age of its fleet by purchasing more than 3,700 new wagons, some of these built by the Osipovichi Wagon Building Plant. The new stock included 2,100 open

[1] http://www.rw.by/corporate/press_center/corporate_news/2013/10/rukovoditeli_zheleznih_dorog_b/

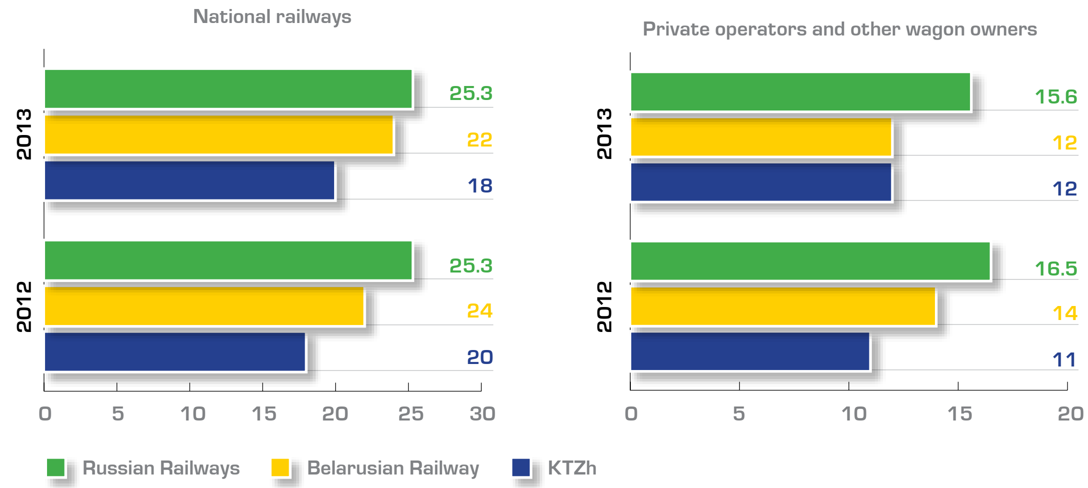


Figure 41.
Average age of the wagon fleet in SES member states (October 1, 2013, years)

Source: IPEM

wagons, 1,000 tank wagons, 550 cement hoppers, and 116 covered wagons. Belarusian Railway's current fleet includes around 3,000 open wagons which have exceeded their standard useful life (22 years). The company also has a significant number of flat wagons older than their standard useful life (32 years). Belarusian private operators have no wagons that are beyond their standard useful life (see Figures 42 and 43).

According to Kazakhstan's National Statistics Agency, in 2012 the average ages of KTZh's and Kaztemirtrans' wagons were as follows: 37.8% wagons were less than five years old; 9.8% were between five and ten years old; 6.4% were between ten and 15 years old; 0.4% between 15 and 20 years old; 18.6% between 20 and 25; and 27% over 25 years old.

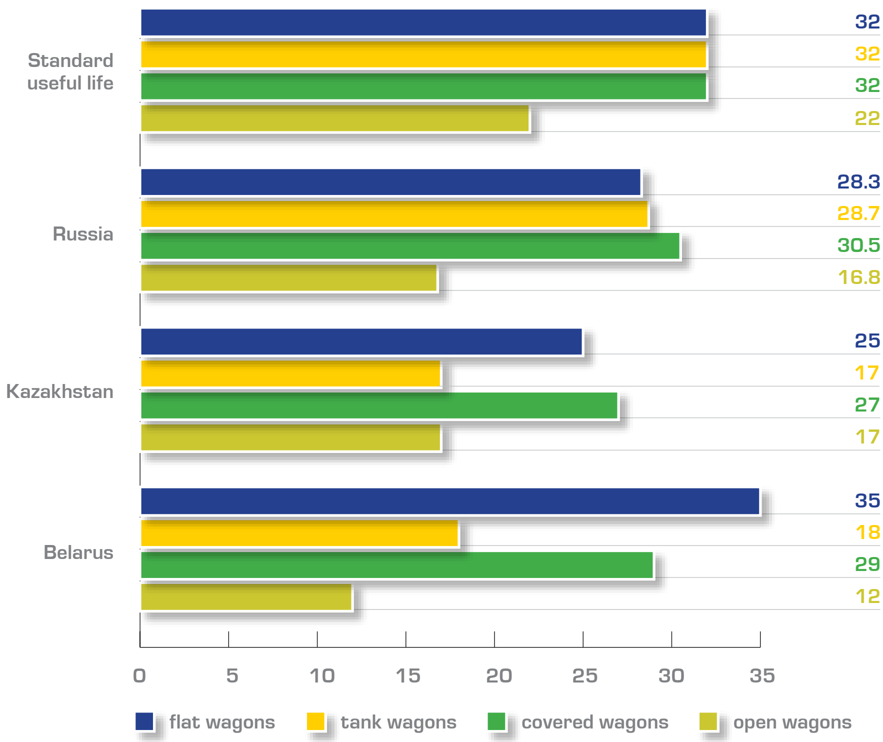
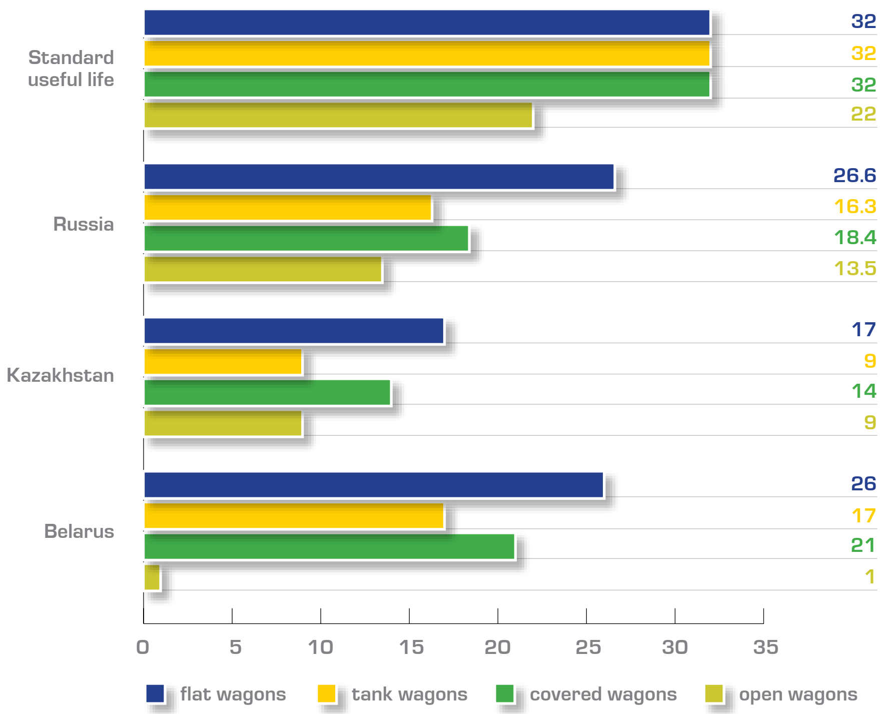


Figure 42.
Average age of wagons (by main types of wagons) owned by national railways in SES member states (October 1, 2013, years)

Source: IPEM

Figure 43.
Average age of wagons (by main types of wagons) owned by private operators and other owners in SES member states (October 1, 2013, years)

Source: IPEM



KTZh and Kaztemirtrans have more than 9,400 open wagons that have exceeded their standard useful life (22 years). According to Kaztemirtrans, the total depreciation of its fleet exceeded 61% in 2012. More than 30,000 wagons (including over 12,000 open wagons, 3,000 flat wagons, 5,000 covered wagons and 3,000 tank wagons) should be written off between 2013 and 2021. The investment programme for the renewal of Kaztemirtrans' wagon fleet for 2012–2020 envisages the purchase of more than 44,000 new wagons.

According to the Russian Federal Antimonopoly Service, in early 2013 the average age of wagons owned by the national railways and private operators was 15.5 years, which suggests that the country's fleet is relatively young. However, the wear and tear of various types of wagons and of wagons operated by different owners varies significantly: special rolling stock is relatively younger than all-purpose wagons. For example, 13,800 open wagons owned by Freight One and 70,900 open wagons owned by Federal Freight are older than their useful life of 22 years. In addition, 64,800 open wagons held by other owners have exceeded their useful life.

In 2013, excess freight carrying capacity became a significant problem in the rail freight market in the SES, and particularly in Russia. This was the result of the purchase of a large amount of rolling stock over the previous two years by market players trying to meet the growing demand for the haulage of goods such as coal and construction materials.

In 2013, the negative trends in the economy became more apparent and inevitably affected the dynamics of rail transport. At the beginning of 2014 (when this report was under preparation), the macroeconomic situation in Russia was extremely difficult to analyse with any certainty. The negative dynamics demonstrated by some statistical indicators will continue to have an impact on wagon markets in SES countries, especially in Russia, where the duration of wagon turnover (one of the key indicators of efficiency of fleets and of the rail network as a whole) has been growing in the past five years (see Figure 44).

According to the Russian Transport Ministry, more than 200,000 rail freight wagons were not used or were underused in 2013 because of the reduction in traffic and the excess size of the wagon fleet. As a result, freight rates went down and many rolling stock operators' margins came under severe pressure.

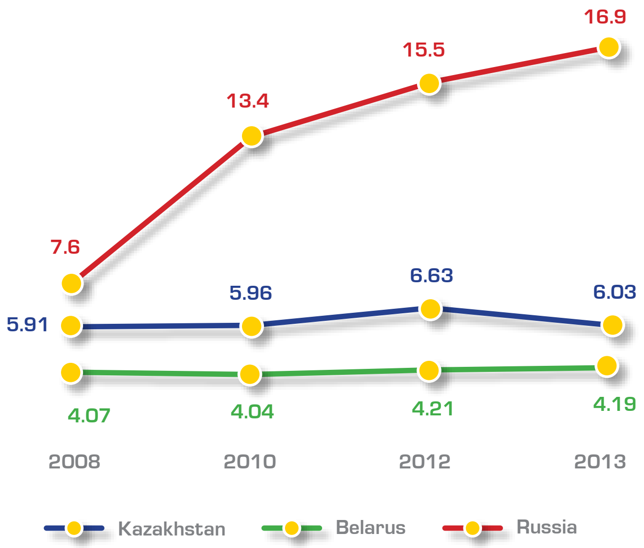


Figure 44.
Average duration of a wagon turnover in SES member states (2008–2013, days)

Sources: Belstat, Kazstat, Rosstat

Another negative consequence was that some wagon building plants had to enter shutdown periods because of a lack of orders. According to Rosstat, in January–June 2013, wagon production in Russia decreased by 20.9% year-on-year, to 27,400 wagons.

The main problems in the SES wagon market may be summarized as follows:

- rail freight traffic has declined in all SES countries as a result of the economic recession in Russia, which began in 2013, and because of declines in production and construction volumes and consumer demand;
- the growing surfeit of different types of wagons, primarily open wagons, has led to a reduction in leasing tariffs and unprofitability for many private operators;
- these two problems have led to stagnation and losses in the wagon building sector and the rolling stock leasing sector (see Figure 45); and
- the efficiency of the wagon fleet continues to decline, as evidenced by the growing empty mileage and turnover duration.

One promising development in the area of rail freight transport is the introduction of so-called innovative rolling stock. These are wagons with higher capacity (an axle load of 25–27 tonne-forces), allowing them to haul approximately 8% more freight per wagon than wagons currently in operation.

Innovative wagons will increase freight traffic without changing the number of train sets. This will raise the network's capacity by between 8% and 15% (because of the increase in weight carried by trains), reduce the costs of locomotion and of track and rolling stock repair and maintenance (because of the increased mileage between repairs) and improve the safety of freight trains. In addition, the higher axle load will make it possible to reduce freight rates per tonne, which is important to consumers and may improve the competitiveness of railways compared to other modes of transport.

Innovative wagons are more expensive than normal wagons but they have a longer service life (32 years instead of 23–25 years) and the economic returns from their operation accumulate throughout this period. However, significant economic benefits will only be derived from the operation of innovative wagons if their share of the freight fleet is increased.

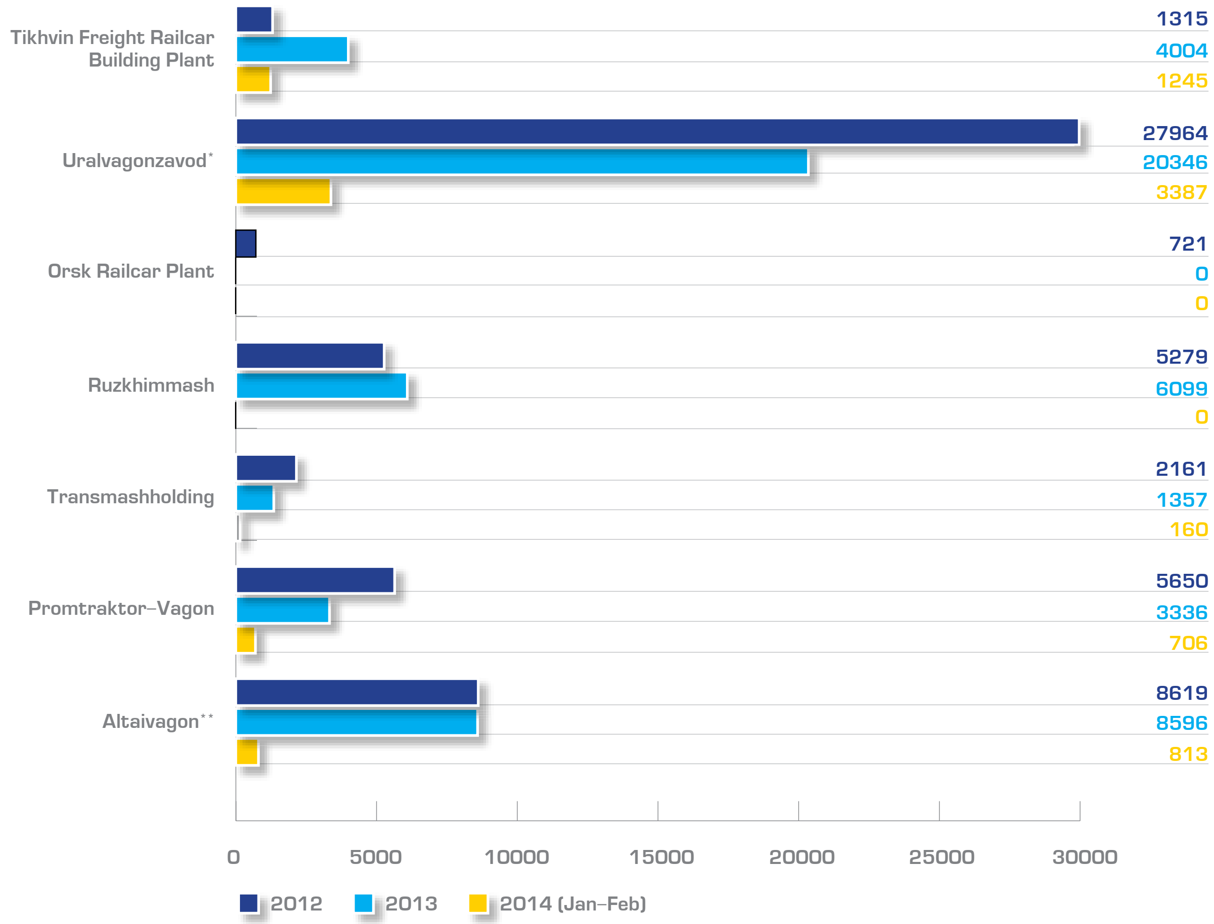


Figure 45.
Production of new wagons by main wagon building plants in Russia (2012–2013 and Jan–Feb 2014, wagons)

Sources: Kommersant, Infoline Rail Russia, Infoline Analitika

Notes: *including Uralkriomash and Tver Carriage Works
**including the Kuzbass Railway Building Company

The producers of innovative rolling stock include three large Russian wagon-building plants: Uralvagonzavod (UVZ), United Wagon Company (UWC) and RM Rail Holding[2].

The most advanced innovation in this market is a new series of 75-tonne open wagons with higher axle load (25 tonne-forces). The rail network already has more than 4,000 such wagons. Other freight innovations welcomed by experts include higher-capacity tank wagons for light oil products (capable of hauling up to 145.5 tonnes) and container flat wagons on 25-tonne car-trucks.

More extensive use of innovative wagons is hindered by the absence of national and international standards which ensure the interchangeability of car-truck parts irrespective of producer. This restricts the use of innovative wagons not only in Russia but also in other SES countries.

The first large purchaser of innovative wagons was the Siberian Coal Energy Company (SUEK), whose fleet comprised 20,000 wagons by April 2014. In September 2013 SUEK and UWC signed a five-year lease agreement for 6,000 wagons.

[2] Business Guide (Rolling stock). Supplement to Kommersant newspaper, April 16, 2014.

Another significant problem in the SES wagon market is the certification of rolling stock and mutual recognition of certificates in SES countries.

The Customs Union Commission, under its Resolution 710 dated July 15th, 2011, approved the Technical Regulations of the Customs Union On the Safety of Rolling Stock, which is due to come into force on August 2, 2014. These regulations will be obligatory for the design and production of rolling stock and its components, and for the assessment of product compliance. The regulations are intended to protect the life and health of people, animals and plants, and ensure the integrity of property. Once these come into force, the SES countries will have a single technical regulation system.

Wagon certification is now compulsory only in Russia. The only certification authority in Russia is the Register of Certification of Federal Railway Transport, which will shortly be granted Rosakkreditatsiya's accreditation to continue its work in accordance with the Technical Regulations of the Customs Union. Once this procedure is complete, the Register of Certification of Federal Railway Transport will be included in the national section of the Register of Testing Centres and Certification Authorities of the Customs Union and will be authorised to provide certification (the Register covers all the three SES countries). At the same time, the Russian law permits the establishment of several certification authorities. This suggests that, in future, other Russian centres will be accredited and included in the Register.

Belarus and Kazakhstan have also begun work on national certification centres. In Belarus a similar centre may be created based on the Belarusian State University of Transport.

No official documents exist at intergovernmental level allowing for the mutual recognition of certificates issued to freight rolling stock in Kazakhstan, Belarus and Russia. Experts believe that, until the Technical Regulations of the Customs Unit take effect, there will be no unambiguous and final recognition of certificates in the SES. While Belarus, for example, recognises Russian certificates, Kazakhstan issues its own certificates based on those received in Russia. It is expected that after August 2, 2014 all certificates included in the Customs Union Register will have equal force and, therefore, will be recognised in all SES countries.

None of the SES countries have officially recognised testing centres accredited to carry out certification in accordance with the Technical Regulations of the Customs Union. Belarus and Kazakhstan have begun working towards accrediting such centres. Russia has also paved the way for setting up centres based on the Russian Institute of Research, Design and Technological Studies in Railway Rolling Stock (VNIKTI). A testing centre for locomotives and track machines was established as part of VNIKTI in 1993. In the course of its re-accreditation in March 2007, the centre was renamed the VNIKTI Rolling Stock Testing Centre. In March 2010, it was accredited again and received a five-year certificate from the Register of Certification for Federal Railway Transport, but not from the Customs Union system. Testing centres may also be set up under the aegis of the Russian Railway Research Institute (VNIIZhT) and the National Research Development and Planning Institute for Railway Information Technology, Automation and Telecommunication (VNIIAS). At present, Russia continues to use safety standards developed by the latter two research institutes and approved by the Ministry of Transport (the federal executive body).

Russian testing centres for the certification of wagons cannot be accredited on a cross-border basis in Belarus and Kazakhstan. All three SES countries require that, for a testing centre to be accredited in their territories, it has a registered legal entity (not a representative office) in the country.

The accreditation criteria for all testing centres were established by Order 682, dated October 16, 2012, issued by the Russian Ministry of Economic Development. The accreditation rules were approved by Governmental Resolution 602 dated June 19, 2012. Clause 14 of these rules prohibits the accreditation of foreign testing centres.

The CIS has a functioning agreement on access to infrastructure, the main requirement of which is the existence of a registration number and a certificate.

Also critical for the development of the wagon market is revision of the legislation governing rail transportation in the SES and between SES member states and third countries. Currently, the wagon fleet in SES member states and the shared use of wagons are governed by multilateral agreements signed under the auspices of OSJD and the Council for Rail Transport of the CIS member states. Given that the legislative provisions and instructions set forth by the Council are in keeping with OSJD requirements (the main difference being the level of freight rates that can be set by the national railways), we are thus able to review the key aspects of the regulation of wagon fleets within OSJD.

Wagon fleets are regulated by the Agreement on the Rules for the Use of Wagons in International Traffic (PGV), the parties to which are 20 countries in Central and Eastern Europe, the CIS, Mongolia and China. Annexed to the agreement are the Rules for the Use of Wagons in International Traffic, technical requirements for wagons, wagon and transfer documents, standard report forms for accepted and delayed wagons, supplementary sheets, cost sheets and other documents.

International transportation employing the wagon fleet of Belarusian, Kazakh and Russian national railways is executed in accordance with the Agreement on the Operation, Full-Size Recording of, and Payments for the Use of Wagons of the National Railways Provided for Lease (Temporary Use) and Used in International Traffic, with was drawn up by the Council for Rail Transport of the CIS member states and the Baltic states ("Council") on May 17–19, 2007.

In 2010 the Council also approved the Concept for the Management of the Common Wagon Fleet in New Conditions, drafted in response to the Order of the Fifty-First Session of the Council, to ensure effective management of wagon fleets under various forms of ownership in the rail network.

In the process of reviewing its fundamental documents, OSJD is also reviewing the PGV. Since many companies with their origins in a single country have emerged on the international rail market, there was an apparent need to ensure that they were party to relevant agreements, including the PGV Agreement.

The accession to the PGV Agreement of multiple carriers from one country was made legally possible after the agreement had been amended. However, the principles of "one country – one vote" and "one country – one payments centre", have been preserved. The amendments to the Agreement took effect on January 1, 2010, but the Rules, which are integral to it, remain unchanged. The existing version of the Rules does not make provision for interaction between carriers and wagon owners. For this reason the main objective of the Temporary Working Group for the revision of the PGV is to draft a new version of the PGV, which will ensure the participation of several companies from one country, and create a mechanism which will make it possible to use wagons without financial risk.

5. Development Prospects for the SES Rail Market

The medium-term outlook for passenger and freight traffic is based on different scenarios and variables for socioeconomic development in SES member states until 2020.

These socioeconomic development scenarios take account of the general economic situation in the countries, including demography, real income per capita, industrial output, the dynamics and geographical structure of foreign trade and tourism, the condition of, and development prospects for, the transport system, potential shifts in passenger and freight flows and other indicators.

To assess the development prospects for the passenger and freight rail markets we use two scenarios: the so-called base and innovative options.

The base (negative) scenario uses the following assumptions: that there will be a resumption ("second wave") of the global economic crisis between 2014 and 2017, which will result in a global reduction in demand for and prices of raw materials in world markets, and the instability of SES national currencies. The assumptions for domestic economies are that there will be a reduction in output and in real disposable income; there will be a recession in the services sector, a decrease in investment in transport, and competition will increase between transport modes for passenger and freight transport.

The assumptions upon which the innovative (optimistic) scenario is based include the sustainable recovery of the global economy, and growing demand for raw materials and industrial products in world markets. The domestic factors include an increase in industrial and agricultural outputs in SES countries, greater investment in transport, implementation of investment projects to improve the capacity of railways, and increases in real income per capita and mobility of the population.

It is expected that actual passenger and freight traffic in the forecast period will be within the parameters set by the base and innovation scenarios.

5.1. Development Forecasts for the Freight Market

Changes in the SES freight market to the year 2020 will result primarily from the expected structural change in industrial production in all SES countries. According to the innovation scenario, these changes will result in a gradual expansion of the mechanical engineering and metal processing sectors, and contraction of the fuel and energy sector in Kazakhstan and Russia. Production in export-orientated sectors is expected to grow in tandem with the improvement in foreign trade conditions, and mechanical engineering is expected to advance at a significant pace. Output of key industrial products (such as trucks and cars, construction and road-building machinery, rail coaches, car tyres and consumer goods) is forecasted to increase.

In the fuel and energy sector there are plans to create new oil and gas producing regions, to enhance the production of high-quality light oil products, and to tap energy conservation potential through the introduction of highly-effective fuel and energy consumption equipment. The main objective of the oil-processing sector is to ensure stable domestic and foreign demand for oil and oil products. The coal sector is expected to stabilise further, to increase coal production and processing, and to commission the new mining facilities currently under construction in Eastern Siberia and Russia's far east.

The growth in ferrous metallurgy will depend on the demand for more highly processed metal products. Progress in the non-ferrous metallurgy sector will lead to an increase in the consumption of non-ferrous metals and high-spec finished products for the manufacture of vehicles, building structures, and energy saving equipment and devices.

According to the base scenario, SES countries will preserve their existing economic structures and will lag behind in non-defence high-tech and medium-tech sectors. From the second half of 2014, the SES countries will feel the effects of economic recession in Russia, which, in 2015–2017, will be exacerbated by problems affecting the global economy.

According to our estimates, under the base scenario, Kazakhstan's rail transport will be in a more advantageous position than Belarusian and Russian railways. In 2014–2015, rail freight traffic in Kazakhstan will grow, albeit insignificantly (see Table 21). The most significant decline in freight traffic is expected in Russia in 2015.

	2013	2014 (estimate)		2015 (forecast)		2020 (forecast)	
		base	innovation	base	innovation	base	innovation
Belarus	43.8	43	44	43	50	50	70
Kazakhstan	229.1	230	235	240	250	250	380
Russia	2,195.8	2,100	2,300	2,000	2,400	2,400	3,550
SES	2,468.7	2,373	2,579	2,283	2,700	2,700	4,000

Table 21. Forecasted rail freight traffic in SES member states (until 2020, billion tonne/km)

Sources: estimates and forecasts by the authors of the report

Therefore, by 2020, rail freight traffic in the SES could reach 2.7 trillion tonne kilometres (up 9.4% on 2013 according to the base scenario) or 4 trillion tonne kilometres (up 62% on 2013 according to the innovation scenario). The strongest growth, under the innovation scenario, is expected in Kazakhstan.

Up to the year 2020, the development of international freight traffic between SES countries will depend on mutual trade between Russia, Belarus, and Kazakhstan, and between these and third countries. It will depend also on their ability to supply high-tech products, which will be in demand globally, the expansion of economic ties, and, to a significant extent, the situation in foreign commodity and transport markets.

An important determinant for the SES rail market is economic recession, which began in Russia and which has been accompanied by a drastic fall in investment[1] and in the rouble exchange rate. This results in the reduction in people's disposable income and the demand for transportation.

Moreover, the reduced global demand for basic commodities, which has largely been caused by the slowdown in economic growth in China and India,

[1] The Russian Ministry of Economic Development estimates that in Q1 2014 investment in fixed capital decreased by 4.8% (source: http://ria.ru/economy/20140416/1004136839.html).

amplifies threats to stability in global commodity markets. This can affect the demand for various types of goods exported by Russia and, consequently, rail shipments of these goods to seaports.

Therefore, we suggest that the market in rail transport between SES member states is, at least for a short period, tending towards stagnation because of significant external influences.

Volumes of export and import shipments by rail will also depend wholly on the economic situation and foreign trade. In 2013, Russian exports decreased by almost 3%, while imports grew by 1.9%; transit through Russia went up by 4.1%. In 2014, however, export shipments are expected to grow at a higher rate because of weaker domestic demand from industry and the economy as a whole. The base scenario suggests that imports will decline until 2017, while exports, due to their structure (primarily fuel and energy freight), will remain almost unchanged.

In 2013, Belarusian exports by rail grew by 6.6%, imports decreased by 5.5% and transit increased by 3.1%. In 2014, exports and imports are expected to grow (under both the base and innovation scenarios), primarily due to the increase in the transportation of light oil products resulting from enhanced oil processing in Belarus.

In Kazakhstan, exports and transit increased in 2013 by 3% and 4.5% respectively, and imports declined by 4.2%. Following the launch of the North–South Transport Corridor to Turkmenistan and Iran in 2014, and the Aktau–Baku ferry service, which has increased traffic in the TRACECA corridor, exports and imports are expected to increase in 2014.

According to the innovation scenario, further economic integration in the SES and the establishment of the Eurasian Economic Union (EEU) will lead to increases in mutual rail traffic.

The base scenario suggests that negative economic trends in Russia and the slowdown in economic growth in other SES countries will create significant risks for the international freight carriage market within the SES and between the SES and third countries. In particular, international rail freight traffic is expected to decrease in 2014 by 5–6% compared to 2013.

According to the Research Department of RosBussinessConsulting, the contraction of the rail freight base in 2013 and its slow recovery over the next two years will have a negative impact on the volumes of freight traffic between SES member states (both in terms of tonnage and tonne-km), despite the expected growth in the average distance travelled in the forecast period. Consequently, in 2015–2016, freight traffic will increase by an insignificant amount, i.e., by 2% under the base scenario and 4% under the innovation scenario. After 2016, international rail freight traffic between SES countries will grow at a faster pace, to 1,190 million tonnes and 1,864 million tonnes under the base and innovation scenarios respectively (see Table 22).

The demand for wagons under these two scenarios will change. Since 88% of all SES wagons are registered in Russia, these scenarios may be analysed based on economic forecasts for Russia.

Both scenarios forecast that in the near future there will be a surfeit of wagons, which will result in lower leasing charges and force dozens of wagon operators to leave the market, either because of bankruptcy or through acquisitions. The weak or negative economic dynamics in forthcoming years will strongly affect the wagon-building sector and reduce significantly new wagons production.

To address this problem, Russia's Ministry of Transport and its Federal Agency for Railway Transport may continue to write off wagons before they reach the end of their standard useful life. However, because of the lack of demand, this measure is expected to mitigate rather than ameliorate the situation significantly.

	2013	2014 estimate	2015 forecast	2016 forecast	2020 forecast
Export					
Belarus	45.5	46	48	51	103
Kazakhstan	103.5	106	110	115	240
Russia	405.6	403	412	430	870
SES	554.6	555	570	596	1213
Import					
Belarus	18.6	18	19	20	38
Kazakhstan	27.7	27	28	29	59
Russia	121.8	124	129	137	274
SES	168.2	170	176	186	371
Transit					
Belarus	46.9	48	50	53	106
Kazakhstan	42	43	45	47	95
Russia	35.5	36	38	40	80
SES	124.3	127	133	140	281
Total international traffic					
Belarus	111	112	117	124	247
Kazakhstan	173.2	176	183	192	394
Russia	562.9	564	579	607	1,224
SES	847.1	852	879	922	1,864

Table 22.
Forecasted international rail freight traffic in SES member states under the innovation scenario (until 2020, million tonnes)

Sources: Belstat, Kazstat, Rosstat, estimates and forecasts by the authors of the report

The recession will impact the markets for different types of wagons in different ways. The market in open wagons will be in the least favourable position, while the market in flat wagons may expect a degree of growth due to increases in container transit from China to Europe using CIM/SMGS way bills, including those initiated under the UTLC now being set up.

In these conditions wagon operators will try to improve the efficiency of their rolling stock, in particular by trying to open up new markets. The SES is expected to see further cooperation between freight operators, for example, through the creation of joint ventures or of a pool of wagons, the use of which will be shared across the SES rail network.

The Technical Regulations of the Customs Union, On the Safety of Rolling Stock, which come into force on August 2, 2014, will be an important step towards ensuring that all wagons from all the SES countries are guaranteed equal treatment like national fleet in terms of approval of their technical and operational characteristics, certification, and recognition of certification. This will undoubtedly help to improve fleet efficiency, which will in turn prompt the release of excess rolling stock (if the demand for shipments does not grow).

Finally, an important trend in developing the wagon fleet in SES countries will be the introduction of higher-capacity wagons on new bogies. The increase in the number of innovative wagons and their share in the SES fleet will happen as early as 2014, starting in Russia first and, after 2015, expanding to the other SES countries, provided that certification issues are resolved.

The innovative rolling stock, with its greater efficiency and capacity, will be in use from 2014, and will help to improve significantly the efficiency of the wagon fleet. In the longer term,

	2013	2014	2015	2016	2020
		estimate	forecast	forecast	forecast
Export					
Belarus	45.5	47	48	50	66
Kazakhstan	103.5	105	107	110	150
Russia	405.6	385	390	400	550
SES	554.6	537	545	560	766
Import					
Belarus	18.6	18	18	18	25
Kazakhstan	27.7	26	27	28	37
Russia	121.8	115	120	130	180
SES	168.2	159	165	176	242
Transit					
Belarus	46.9	47	48	50	68
Kazakhstan	42	42	43	45	61
Russia	35.5	31	34	37	51
SES	124.3	120	125	132	179
Total international traffic					
Belarus	111	112	114	118	159
Kazakhstan	173.2	173	177	183	248
Russia	562.9	531	544	567	781
SES	847.1	816	835	868	1,187

Sources: Belstat, Kazstat, Rosstat, estimates and forecasts by the authors of the report

Table 23.
Forecasted international rail freight traffic in SES member states under the base scenario (until 2020, million tonnes)

however, because they will displace older wagons, there will be an even greater surfeit of freight wagons in the market.

5.2. Forecasts for the Development of the Passenger Market

In Q1 2014, for the first time since the 2009 crisis, Russian population experienced a cut in their real disposable income. This affected people's mobility and the demand for passenger transportation. A similar trend has emerged in Belarus, where high inflation has exerted huge pressure on effective demand. Statistics show that these changes have reduced the population's demand for transport services.

Total passenger traffic in the SES decreased by 0.5% in Q1 2014, with the most significant decline in Russia. In Kazakhstan, however, rail passenger traffic increased by 8.7% (see Figure 46).

Under the base scenario, because of the current recession in Russia, passenger traffic is expected to decline in 2014–2015, both within the SES and between Russia and other SES countries. It is expected to total 1.17 billion people in 2014 and 1.16 billion in 2015. Beyond 2015, partly thanks to the commissioning of several sections of high-speed rail in Russia, the demand for rail transportation will begin to grow again. By 2020, total SES traffic under the base scenario is forecasted to reach 1.6 billion people (up 32% on 2013; see Table 24).

The main trends will be as follows:

- suburban traffic in Russia will continue to decline;
- domestic traffic in Kazakhstan and in the high-speed segment in Russia will increase;

Figure 46. Changes in rail passenger traffic in SES member states (Q1 2014, % year-on-year)

Sources: Belstat, Kazstat, Rosstat

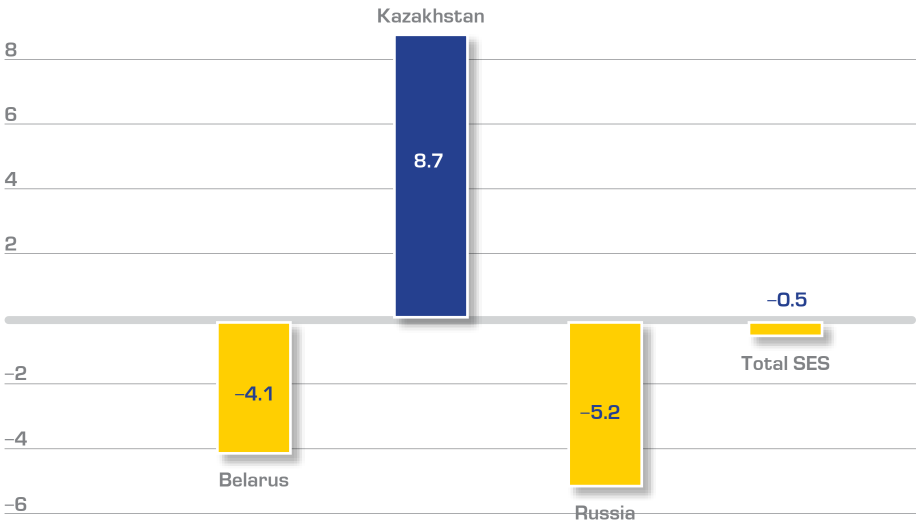


Table 24. Forecasted rail passenger traffic in SES member states (until 2020, million people)

Sources: Belstat, Kazstat, Rosstat, estimates and forecasts by the authors of the report

- Aeroexpress traffic in Russia will continue to increase but at slower rates because of the slowdown in international air traffic through the country's largest airports (as indicated by Rosstat's data for March–April 2014).

The innovation scenario forecasts a stable increase in passenger traffic to 2020 in all SES countries, and at higher rates in 2018–2020. By 2020, total traffic is expected to reach 2 billion people, up 66% on 2013 (see Table 24).

	2013	2014 estimate	2015 forecast	2016 forecast	2020 forecast
Base scenario					
Belarus	100.5	98	97	100	110
Kazakhstan	26.2	28	29	30	40
Russia	1,079.6	1,044	1,034	1,070	1,450
SES	1,206.3	1,170	1,160	1,200	1,600
Innovation scenario					
Belarus	100.5	100	104	110	150
Kazakhstan	26.2	30	32	35	50
Russia	1,079.6	1,100	1,164	1,255	1,800
SES	1,206.3	1,230	1,300	1,400	2,000

Irrespective of the scenario, in the forecast period, rolling stock for suburban and long-distance routes will be replaced by new lighter and more comfortable trains in all SES countries.

Russia alone expects to replace up to 10,000 coaches. The planned replacements include the launching of double-deckers, the gradual reduction and decommissioning of open-plan sleeping-car coach, and the adoption of lighter and faster trains. According to FPC, the cost of transporting one passenger in a double-decker compartment carriage is comparable to the cost of travel in a standard open-plan sleeper. The better quality of long-distance travel will improve the competitiveness of rail passenger transport.

The replacement of suburban trains with more comfortable and faster rolling stock will also help to attract passengers, especially where the road network is overloaded.

5.3. Rail Infrastructure Development and High-Speed Rail in the SES

International experience suggests that the development of rail transport and its efficiency will largely depend on infrastructure and on the creation of special (dedicated) lines for passenger and freight traffic.

In particular, the experience of the US, Canada and Australia indicates that dedicated freight lines for heavy traffic are a beneficial option. Replicating this in the SES will necessitate the introduction of new rolling stock with higher axle load.

Another promising opportunity is the creation of dedicated lines for high-speed passenger transportation and fast freight container services using high-speed rail.

The underdevelopment of rail infrastructure in the SES, including the lack of high-speed rail, slows down economic growth and restricts the mobility of the population. High-speed projects can help remove bottlenecks in the transport system and these economic limitations. Previous conventional assessments of the effectiveness of investment in infrastructure, which placed emphasis on direct effects, suggested that high-speed rail in Russia would be unprofitable.

However, according to recent studies by the Centre for Strategic Research, the success of high-speed projects should be measured predominantly by general economic effects such as increased budget revenues and gross regional product in the regions where high-speed rail is built, the growth of innovative and investment demand, multiplier effects in construction, mechanical engineering, tourism and other related sectors, and significant agglomeration effects, since high-speed rail will connect large cities and agglomerations. If all these factors are taken into account, the socioeconomic impact of high-speed rail projects appears radically improved.

High-speed rail construction between the largest agglomerations will have multimodal effects, including relieving pressure on motorways and the existing rail network (because some passenger flows will shift to high-speed trains). It will free up the existing rail network for freight traffic and create major passenger hubs with links to airports and suburban trains. In addition, high-speed rail will make it possible to develop suburban traffic and container transport which will significantly improve connections, reduce passenger travel time and increase the average speed of freight delivery.

International experience shows that high-speed rail always improves access to markets for those companies located near to stations served and, therefore, contributes to the growth of gross regional product. A 1% improvement in access to markets results in a 0.21–0.27% growth in gross regional product[2].

High-speed rail will redistribute and rationalise passenger flows between transport modes. Once it is commissioned, high-speed rail may take more than half of the aggregate volume of passenger traffic from other modes of transport. In Europe, high-speed rail attracts passengers travelling 300–600 km. In Russia, high-speed lines will attract a significant proportion of passengers travelling on the Moscow–Kazan, Moscow–Voronezh, Rostov–Krasnodar and other routes. High-speed rail will ensure an increase in traffic, including for aviation, because it will have links to the country's largest airports. Therefore, high-speed rail will continuously stimulate the demand for transportation and, consequently, mobility of the population of Russia and its regions[3].

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[2] Assessing Large Infrastructure Projects: Tasks and Solutions. Project Developments by the Centre for Strategic Research, CSR. Moscow, 2013.

[3] Ibid

The example of European, Japanese and Chinese high-speed services leads us to conclude that these lines are a powerful engine of development in all the regions they cross. The most significant effects are in the areas of IT, business services, tourism, industrial production and construction. They also boost private investment in areas along high-speed routes and create new economic growth centres. This results in the faster economic growth of cities connected by high-speed rail, and the equalisation of salaries between large cities and neighbouring regional centres, as well as between central and regional municipalities within agglomerations.

The EU experience suggests that high-speed rail involves the lowest additional costs for governments compared to other modes of transport. In particular, safety, environmental impact and health impact are less severe. Apart from expenditure on infrastructure, the indirect expenses associated with the operation of high-speed rail are significantly lower than for road transport and civil aviation.

The agglomeration effects of high-speed services are very significant. These include the enhanced accessibility of agglomeration centres, significant cuts in journey times for passengers, resettlement within agglomerations, increased productivity of labour, and the alignment of salaries. These effects result in structural changes in the settlement system, and in the growth of GDP, investment, jobs and budget revenues. Increasing the speed of suburban trains to the level of developed European countries may stimulate further increases in salaries – by 23.5% on average in Moscow Region and up to 45% in other regions. Another important effect will be the enhanced investment in the areas where transport accessibility will improve.

High-speed rail and the decommissioning of many passenger trains will make it possible to de-bottleneck the existing rail network. This will reduce delivery costs for domestic freight, exports and imports. According to the calculations made by the Centre for Strategic Research for Russian Railways in 2012, for every 10% reduction in transport costs for all types of goods (in all regions), there is a consequent 0.12% increase in the country's GDP. For every 10% reduction in rail costs there is an average 0.04% increase in GDP.

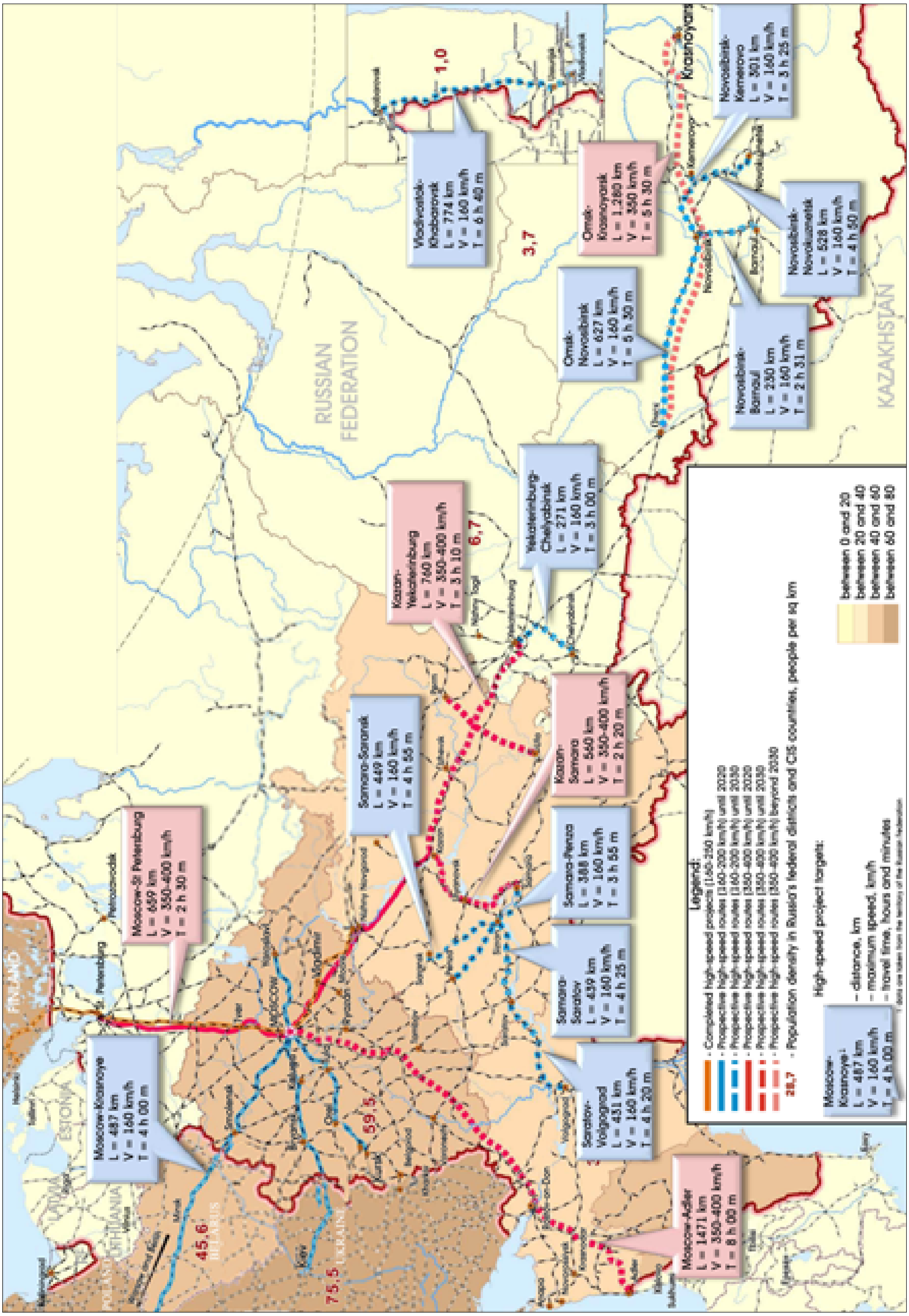
Preliminary estimates suggest that Moscow, as the country's largest hub, can expect significant benefits from the construction of two high-speed lines now under way in Russia. The dedicated Moscow–Kazan–Yekaterinburg line and the timetabling of trains running on it, together with the launch of high-speed suburban electric trains, will enhance the capacity of the existing lines in the north-western part of Moscow Region and thereby help to resolve serious transport problems faced by people living in these areas.

The direct effects on Moscow, as the hub, will include reduced city traffic on main trunk routes, the integration of surface links between Moscow airports, and the development of new leisure destinations.

High-speed rail will improve the attractiveness and economic returns of many large projects included in transport development programmes and strategies of Russian cities and the Transport Strategy of the Russian Federation until 2030. It will be a positive factor in the improvement of Moscow air traffic and the implementation of federal programmes including the Programme for the Development of Domestic and Foreign Tourism.

At the beginning of 2014, Russia's plans to develop the national high-speed rail system (see Figure 47) included three routes: Moscow–Tver–Saint Petersburg, Moscow–Rostov–Adler (High Speed Route 1) and Moscow–Kazan–Yekaterinburg (High Speed Route 2). For now, concrete steps, including a feasibility study, are only being taken for the High Speed Route 2.

On May 27, 2013, at a meeting in Sochi on developing high-speed rail, President Putin announced that Russia's first high-speed rail line from Moscow to Kazan was to be built in 2014–2018,



Source: Institute of Economy and Transport Development, Russian Railways

Figure 47.
Potential high-speed network in Russia (to 2030)

with potential further extension to Yekaterinburg and Ulyanovsk[4]. Investment in this project will exceed US $30 billion. The railway will be built by Russian Railways' subsidiary, High-Speed Rail Lines. The expected journey time from Moscow to Kazan (770 km) will be 3.5 hours and from Moscow to Yekaterinburg (1,595 km, once the extension is built) about 8 hours.

The project is included in the Forecast for the Socioeconomic Development of Russia until 2030, the Transport Strategy of the Russian Federation until 2030 (updated in autumn 2013), and the new Master Plan for Railways Development in Russia.

The high-speed route location was approved by the Scientific and Technical Council of Russian Railways in July 2013. It will run from Moscow to Kazan close to the administrative centres of Vladimir, Nizhny Novgorod and Cheboksary, and its zone of influence will include seven regions: Moscow and Moscow Region, Vladimir and Nizhny Novgorod Regions, Chuvashia, Mari El and Tatarstan.

The trains will stop at 15 stations: Moscow (Kursky railway station), Noginsk, Orekhovo-Zuyevo, Petushki, Vladimir, Kovrov, Gorokhovets, Dzerzhinsk, Airport, Nizhny Novgorod, Niva, Polyanki, Cheboksary, Pomary, and Kazan-2. Its maximum capacity will be reached by the summer of 2030 using 34 pairs of high-speed trains and eleven pairs of fast regional trains[5].

5.4. Prospects for Rail Transit Development in SES Member States

Developing transit potential is an important political and macroeconomic objective in all SES member states, which is enshrined in founding documents approved at national and international level.

In Kazakhstan, for example, the development of transit potential is identified as a key objective of the national transport policy in accordance with the Kazakhstan-2050 Strategy and the State Programme for the Development and Integration of Transport Infrastructure until 2020, approved by Presidential Decree 725 on January 13, 2013. The policy also specifies transit traffic as the crucial indicator of the transport system's development and its integration into the global system.

Rail transport accounts for the largest share of transit in Kazakhstan. In 2012, a total 16.3 million tonnes of freight (91.6% of all transit through the country) were carried by rail. Revenues from transit exceeded US $1 billion. Russia accounts for approximately 50% of goods transited and China for about 15%. With China's increased integration into the system of Eurasian surface transport and trade along the economic routes of the Great Silk Way, the volume of goods transited through Kazakhstan to Central Asia and Europe will grow. Transit traffic through Kazakhstan (via Dostyk and Khorgas) is expected to reach 1.5 million TEU per year, or 8% of all container traffic between China and the EU.

In Belarus, rail transport plays an important role in transiting goods between other SES member states and European countries. In addition, Belarusian railways provide passenger transit, thereby helping to promote trade and international tourism.

In Russia, Goal 4 of the Transport Strategy until 2030 envisages the country's integration into the world's transport system and the development of Russia's transit potential. The Strategy's targets include increasing transit traffic through Russia from 28 million tonnes to 85 million tonnes under the innovation scenario or 68.5 million tonnes under the base scenario. Transit goods include items transported from Belarus and Kazakhstan to Russian commercial seaports and items carried between third countries, including China and the EU.

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[4] http://ria.ru/economy/20130622/945087960.html

[5] http://www.hsrail.ru/press-center/smi/247.html

The development of rail transit in SES countries requires a coordinated policy and completion of the following major tasks:

- the establishment of competitive rail corridors networks of logistics centres and “dry ports” as well as systems to coordinate business processes along delivery chains;
- the creation of joint transport and logistics companies for the SES countries, in particular completing the formation of the United Transport and Logistics Company (UTLC) and its entry into the international transport market;
- the improvement of relevant legislation, and wider use of the unified CIM/SMGS way bills for shipments between Europe and Asia;
- integration into the world’s transport system using opportunities provided by international organisations, primarily UNECE, OSJD, UIC and the Shanghai Cooperation Organisation (SCO); and
- the introduction of intelligent transport systems in international rail corridors, using of state-of-the-art IT and global navigation systems and traffic planning and management techniques for transport corridors.

The key prerequisites for providing competitive rail transit corridors include the organisational, technological and informational integration of rail transport, port, border crossing and customs facilities which are involved in transit; the development and implementation of comprehensive transport, logistics and IT systems for managing delivery chains, which will allow freight trains to run at a commercially competitive speed; attractive through rates; and the creation of through rail services by encouraging close cooperation between all participants in the delivery chain, including customs and border services.

6. Devising and Implementing a Coordinated Transport Policy, Including Measures Guaranteeing the "Four Freedoms" in the Area of Rail Transport

Another milestone in SES integration was the signing on May 29, 2014 of the Agreement on the Eurasian Economic Union (EEU). The EEU is due to begin functioning in 2015 and is expected to enhance integration in the transport sector.

According to Article 90 of the EEU Agreement, the Union will have a coordinated transport policy to ensure economic integration, and a gradual, stepwise establishment of the Single Transport Space based on the principles of competition, openness, safety, reliability, accessibility and environmental security[1].

The objectives of the coordinated transport policy are to:

- take coordinated measures to ensure that transport benefits and best practice are shared;
- integrate transport systems into the global transport system;
- ensure the efficient development of the transit potential of SES member states;
- improve the quality of transport services;
- ensure transport safety;
- reduce transport's harmful effects on the environment and health; and
- create a favourable investment climate.

The priorities of the coordinated transport policy should be to:

1) create a common transport market;
2) establish the Single Transport Space;
3) create and develop Eurasian transport corridors;
4) use and develop transit potential within the EEU;
5) advance research and innovation in the transport sector; and
6) ensure the efficient use of human resources in the member states.

[1] Draft Agreement on the Eurasian Economic Union, Part III. Single Economic Space.

The coordinated transport policy will encompass all the issues relating to rail transport.

The above provisions of the EEU Agreement are provided in detail in the Annexe to this document: Protocol on the Coordinated Transport Policy.

The Protocol defines[2] that, with respect to rail transport, in view of the necessity to ensure access to rail services for all member states, and coordinated approaches to the state regulation of fares and rates, the EEU will implement policies to:

- create a common market in rail services within the EEU;
- ensure consumer access to rail services in each member state, on terms no less favourable than are provided to its own consumers;
- maintain the balance of economic interests between the consumers and providers of rail transport services; and
- ensure access for member state rail companies to the domestic rail markets of other member states.

EEU rail operators should have access to infrastructure on equal terms, based on the requirements for carriers and the capacity of infrastructure and its technical and technological capabilities. In addition, information regarding infrastructure services and the related procedures, rates, fares and charges must be made available to all participants in the process.

Fares and tariffs and/or their ceiling will be established in accordance with the laws of the member states or international treaties, provided there is an opportunity to differentiate them, including by type of freight, type and ownership of wagons and carriages, travel distance and wagon/carriage load, and provided that they make it possible to:

1) recover reasonable costs that relate directly to rail services;
2) ensure infrastructure development;
3) ensure the transparency of rail fares and rates and the possibility to revise them and/or their ceiling if economic conditions change unexpectedly, with prior notification the member states;
4) ensure that decisions on the level of rail fares and rates are made public;
5) use a harmonised approach to determine the types of goods and the rules for establishing rail fares and tariffs; and
6) determine the currency of fares and tariffs in each member state in accordance with its respective laws.

A common transport market means a physical and economic space where the providers and consumers of transport services, who are residents of EEU member states, are treated as nationals in other member states and economic boundaries are lifted. Providers may include companies registered in EEU countries offering transport, logistics or related services, or individual entrepreneurs.

The definition of the Single Transport Space (STS) is provided in the relevant blueprint, as approved by Resolution 374 of the Interstate Council of the Eurasian Economic Community on January 25, 2008 (at heads of government level). STS means the combining of transport systems of the member states which ensures the free movement of passengers, luggage, freight and vehicles, the technical and technological compatibility of transport processes,

[2] Draft Annex 21 to the Agreement on the Eurasian Economic Union. Protocol on the Coordinated Transport Policy.

together with harmonised transport laws and unified competition rules. The STS will encompass all modes of transport and the providers of transport and related services associated with the carriage of all forms of property, irrespective of the country of their incorporation. The notion of a single transport space is broader than the notion of a common market.

In addition to fare policies and access to infrastructure, the coordinated rail transport policy of the EEU should have the following key objectives:

- the improved integration, accessibility and quality of through transport and logistics services provided in EEU countries to all types of economic agents;
- the coordinated development of international rail routes and corridors in EEU countries, including those ensuring Euro-Asian transport links, and integration into the European and Asian rail networks and the global transport market;
- the improvement of the legislative framework of EEU countries in the area of rail transport to ensure economic integration and mutually beneficial cooperation;
- the development of a single information space to benefit all participants in passenger and freight transport by rail;
- the improvement of rail traffic and transport safety in EEU countries; and
- the reduction in harmful effects of rail transport on the environment and health.

The achievability of the above objectives is predictable to a certain extent since the system has been tried and tested by the EU and other unions. The creation of a common rail market is a stepwise process requiring a somewhat lengthy adaptation period in order to provide equal treatment in each country of freight and passenger operators. This depends chiefly on the progress of reform in the rail sector and the division of the sector into infrastructure and carriage operations in separate EEU countries.

With these factors in mind, the main principles of the coordinated policy in the area of rail transport in the SES should be:

1. Non-discrimination: the gradual introduction of the principle of national treatment in each country to rail services providers from other SES countries;
2. Harmonised regulation: the consistent harmonisation of the legislative framework governing rail transport;
3. SES superior governance: the priority of the legislative framework of the SES over national transport regulations;
4. Transparency: the openness of the transport policy and the accessibility of all legal and technical regulations relating to rail transport in the SES;
5. Compliance of SES transport regulations with international standards and principles of the UN and its regional commissions for Europe, Asia and the Pacific (UNECE and UNESCAP), the World Trade Organisation (WTO), OSJD and the Council for Rail Transport of CIS member states and the Baltic states; and
6. The use of best practice and technologies adopted in the course of devising and implementing transport policies in the EU (with regard to ensuring interoperability and the liberalisation of access to the EU passenger and freight transport markets).

The main elements of the coordinated transport policy of the Customs Union and the SES relating to rail transport listed below.

As regards the creation of a common transport and logistics market, these are to:

- devise and implement a Model for the rail transport market in the SES;

- devise and implement mechanisms to provide national treatment for wagons regardless of their state of registration;
- devise and implement mechanisms to provide national treatment for locomotives regardless of their state of registration;
- devise and implement mechanisms to ensure national treatment of transportation in each country (by setting up subsidiaries, branches and representative offices) carried out by operators and trains from other SES countries (including the right to "consecutive cabotage"[3]); and
- devise and implement mechanisms to provide national treatment of passenger transport in each country (by setting up subsidiaries, branches and representative offices) carried out by operators and trains from other SES countries (including the right to "consecutive cabotage").

With respect to the establishment of the Single Transport Space, the objectives are to:

- develop, in a coordinated way, an integrated rail network, which should conform with uniform requirements for infrastructure and carriage technologies;
- ensure and advance the interoperability of rail systems in the SES within the 1520 Common Space (based on unified standards and technical regulations);
- ensure the coordinated development of high-speed rail for passenger transportation and container shipments;
- create up-to-date multimodal freight hubs and "dry ports" to improve the efficiency of transport intermodality and freight traffic and to attract additional freight flows, including transit; and
- promote integration into the global transport system.

As for joint transit potential, the objectives are to:

- ensure full freedom of transit;
- promote joint container operating companies;
- maintain a flexible tariff policy;
- promote measures to facilitate border-crossing procedures for trains on SES external borders; and
- ensure coordinated participation in international projects and programmes to develop Euro-Asian transport links (including UN initiatives).

The objectives in the area of research and innovation are to:

- improve and maintain uniform educational standards in the area of rail transport, arrange the professional exchange of knowledge and professional development for rail specialists, as well as to ensure the transfer and accumulation of experience in the sector; and
- ensure the coordinated use of the capacity of SES research institutions and testing centres in the area of rail transport.

In the area of human resources the objectives are to:

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[3] "Consecutive cabotage" means the transport of passengers and/or freight between two points in the same SES member state by a carrier of another SES member state, when it is a part of the general international (two-way) or transit route in the SES. The principles of consecutive cabotage are already used in the area of international rail passenger transport in SES countries.

- ensure mutual recognition in all SES countries of qualifications and other certificates confirming the professional competence of rail specialists, including locomotive and traffic control crews, and the key personnel of infrastructure and train operators;
- allow operators from SES countries to employ their key specialists and personnel within their subsidiaries and branches in other SES countries;
- extend to citizens of other SES countries, who are members of locomotive or traffic control crews, or key personnel of the operators, non-discriminatory treatment in terms of working time and time off, remuneration or dismissal, comparable to those enjoyed by the country's own citizens; and
- devise and implement joint training or professional development programmes for key rail specialists, harmonise training modules in accordance with relevant international professional education standards, ensure quality control for training activities, and ensure jointly the availability of training materials.

With regard to technical regulation, traffic and transport safety, and environmental protection, the objectives are to:

- devise and use harmonised technical regulations and international standards as applicable to rail transport;
- create a single compliance certification system for rail equipment and infrastructure used in the Customs Union and the SES;
- promote the introduction (including by means of harmonising certification mechanisms within the Customs Union) of new types of wagons with higher axle load (up to 25-27 tonnes), special wagons made of lighter materials, double-decker coaches for long-distance routes, and modern, energy-efficient trains for suburban destinations;
- introduce systems and devices to improve the safety of traffic and security for transport infrastructure; and
- devise joint environmental and health protection measures and respective checks, and promote a coordinated policy in the area of research.

Objectives regarding IT are to:

- create and introduce new information technologies, enhance interaction between national information systems and improve the common information space for all rail service users in the SES;
- introduce and use uniform principles of information exchange, and a single classification and coding system for reference information;
- use a single interstate information base and a data transfer network to optimise rail operations;
- ensure a wider use of web and portal solutions for applied tasks at interstate level; and
- advance electronic processing of technological documents.

With regard to international cooperation, the success of SES initiatives in the area of rail transport will depend, to a large extent, on cooperation with multilateral interstate and non-governmental institutions involved in the sector. These are, in the first place, the UNECE and the UNESCAP, which devise standards and recommended practices for rail infrastructure, rolling stock and border-crossing procedures.

Since all SES countries are located within the area of the so-called "Eastern Rail Law", it is very important to develop cooperation with regional interstate authorities such as OSJD and the Council for Rail Transport of the CIS member states and Baltic states. For infrastructure, freight and passenger operators it is important to cooperate with the UIC, which has significant experience in implementing projects and promoting best practice in the area of rail transport.

In forming the EEU it is also vitally important to create a system to manage coordinated transport policy. In 2011, EDB reviewed management systems for various transport modes in the CIS and EurAsEC and potential for creating of a new management system within the SES and the future EEU. One of the report’s key findings was that the timely establishment of supranational institutions, vested by national authorities with wide-ranging of powers to regulate foreign trade, would be one of the most crucial prerequisites for the economic union to function. When integration deepens (to incorporate a common market and economic and currency union) supranational authorities should extend their competence to encompass transport policies. The functions that must be delegated to the supranational level to ensure the effective functioning of the economic union in the area of transport include the approval of uniform criteria governing market access and competition, the devising of a single transport policy, and the harmonisation of the countries’ transport laws.

The establishment of a supranational mechanism to manage coordinated policy in the area of rail transport in the EEU will include the creation of special management bodies (for which the European Railway Agency would be a prototype) and a system of supranational regulations, which will be given precedence over national laws.

Conclusion

The main objectives of this Review were to analyse the current state of rail transport in the Single Economic Space of Belarus, Kazakhstan and Russia, and review the main barriers to the creation of a common transport market in the framework of the Eurasian Economic Union, from 2015.

Our analysis has shown that SES railways haul over 120 million tonnes of freight between SES member states. However, the future of this market will depend on the de-bottlenecking of the rail network and the improvement of the wagon fleet, mainly through the introduction innovative wagons with higher axle load. The ability to effect such change will depend to a significant extent upon extending mutual access for operators to the markets of other SES member states, and the improvement of tariff policies which are the cornerstone of the common transport market in the SES.

Developing the passenger sector and enhancing the competitiveness of railways as a mode of transport require construction of dedicated high-speed lines and the prioritisation of high-speed rail, including in suburban areas. The enormous social role of suburban traffic makes it impossible to fully liberalise rail transport and eliminate government support in this sector.

SES countries have significant transit potential. Their rail network and the international transport corridors and railway routes that cross the SES are a natural shortest “transport bridge” between Europe and Asia. However, competitive advantages with regard to transit are not used to their fullest extent.

The issues discussed in this report require a more detailed study, which would make recommendations regarding all the problems identified. These include socioeconomic and political issues affecting interaction between SES countries within the Eurasian Economic Commission – the first supranational authority established since the breakdown of the Soviet Union to ensure economic integration, including in the transport sector.

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Annex 1. OSJD International Rail Corridors Crossing the Single Economic Space

Corridor 1

Passes through Poland, Latvia, Lithuania, Estonia, Belarus, Russia, Kazakhstan, Uzbekistan, China, Mongolia and the Democratic People's Republic of Korea.

Kunovice–Warsaw–Brest–Minsk–Moscow–Nizhni Novgorod–Kotelnich–Perm–Yekaterinburg–Omsk–Novosibirsk–Krasnoyarsk–Irkutsk–Zaudinski Zavod–Karymskaya–Volochaevka–Nakhodka/Vanino/Khasan.

Branches:

1a. Riga/Ventspils/Liepaja–Krustpils–Zilupe–Posin–Moscow

1b. Saint Petersburg/Tapa–Vologda–Kotelnich

1c. Moscow–Ryazan–Syzran–Orenburg–Aktubinsk–Kandagach–Arys–Tashkent

1d. Karymskaya–Harbin–Титеп–Namyan–Rajin

1e. Harbin–Shenyang–Dalian

1f. Zaudinski Zavod–Ulan Bator–Erlian–Beijing–Tianjin

1g. Shenyang–Dandong–Xinzhu Shi–Kaesong

1h. Kaliningrad–Pagegiai–Radviliskis–Daugavpils–Rezekne

1i. Khasan–Tumen–Wonsan–Geumgangsan

1j. Ventspils/Riga–Krustspils–Indra–Bigosovo–Vitebsk–Smolensk

Corridor 2

Passes through Russia, Kazakhstan, China and Vietnam.

Moscow–Kazan–Yekaterinburg–Kurgan–Petropavlovsk–Astana–Dostyk–Alashankou–Urumqi–Zhengzhou–Xuzhou–Lianyungang.

Branches:

2a. Dema–Kartaly–Tobol–Astana

2b. Zhengzhou–Hengyang–Kowloon

2c. Xuzhou–Shanghai

2d. Hengyang–Liuzhou–Nanning–Hanoi

Corridor 3

Passes through Poland, Ukraine and Russia.

Zgorzelec–Wroclaw–Opole–Katowice–Krakow–Medyka–Mostyska–Lviv–Zhmerynka–Kyiv–Zernovo–Suzemka–Moscow.

Corridor 4

Passes through the Czech Republic, Slovakia, Hungary, Poland and Ukraine.

Decin–Prague–Ceska Trebova–Prerov–Hranice na Morave–Zilina–Kosice–Chop.

Branches:

4a. Prerov–Breslau

4b. Ceska Trebova–Brno–Breclav–Bratislava–Budapest

4c. Hranice na Morave–Ostrava–Petrovice–Katowice

4d. Cheb–Prague

4e. Horni Dvoriste–Prague

4f. Warsaw–Zwardon–Zilina

4g. Puchov–Bratislava

Corridor 5

Passes through Hungary, Slovakia, Ukraine, Russia, Kazakhstan, Georgia, Azerbaijan, Moldova, China and Kyrgyzstan.

Bajansenye/ Sopron/Hegyeshalom–Budapest–Zahony–Chop–Stryj–Lviv–Krasne–Zhmerynka–Fastiv–Darnica–Grebjonka–Poltava–Kharkiv–Topoli–Valujki–Penza–Kinel–Kurgan–Utjak–Presnogorkovskaya–Kokshetau–Aktogai–Dostyk–Alashankou–Urumqi–Lanzhou–Lianyungang.

Branches:

5a. Darnica–Konotop–Zernovo–Suzemka–Bryansk–Moscow

5b. Murakeresztur/Gyékényes–Dombóvár–Budapest

5c. Magyarboly–Dombóvár

5d. Fastiv–Znamenka–Dnepropetrovsk–Ilovaisk–Kvashino–Rostov–Samur–Yalama–Baku–Beyuk–Kyasik–Tbilisi–Poti/Batumi

5e. Ungheni–Chisinau–Razdelnaya–Zhmerynka

5f. Kurgan–Omsk–further along Corridor 1

5g. Rtishchevo–Ozinki–Arys–Lugovaya/Bishkek–Rybachie/Almaty–Aktogai

5h. Bratislava–Zilina–Kosice–Cierna nad Tissou–Chop

Corridor 6

Passes through the territory of the Czech Republic, Slovakia, Hungary, Romania, Serbia, Bulgaria, Greece, Turkey, Iran and Turkmenistan.

Decin–Prague–Bratislava–Budapest–Arad–Craiova–Calafat–Vidin–Sofia–Thessaloniki/Istanbul–Ankara–ferry across Lake Van–Tehran–Sarachs–Saparmurat Turkmenbashi–further along Corridors 10 and 2.

Branches:

6a. Arad–Bucharest–Constanta–further along Corridor 10

6b. Budapest–Belgrade–Sofia

6c. Hegyeshalom/Sopron–Budapest

6d. Sofia–Gorna Oryahovitsa–Varna

6e. Tehran–Qom–Bandar Abbas

6f. Qom–Bandar Khomeini

6g. Mashhad–Bafq

Corridor 7

Passes through Poland and Ukraine.

Gdansk–Warsaw–Lublin–Dorokhusk–Yagodin–Zdolbunov–Kazatin–Zhmerynka–Razdelnaya–Odessa.

Corridor 8

Passes through Ukraine, Russia, Kazakhstan, Uzbekistan and Turkmenistan.

Fastiv–Znamenka–Nizhnedneprovsk Uzel–Krasnaya Moguila–Gukovo–Likhaya–Volgograd–Verhni Baskunchak–Aksarayskaya–Makat–Beineu–Naimankul–Nukus–Uchkuduk–Navoi.

Branches:

8a. Naymankul–Chardzhou

8b. Makat–Kandagach–Nickel-Tau–Kartaly

Corridor 9

Passes through Lithuania, Belarus and Russia.

Klaipeda/Draugystes–Šiauliai–Kaisiadorys–Vilnius–Minsk.

Branch:

9a. Kaliningrad–Nesterov–Kaunas–Kaisiadorys

Corridor 10 (TRACECA)

Passes through Ukraine, Bulgaria, Romania, Georgia, Azerbaijan, Uzbekistan, Turkmenistan, Kyrgyzstan, Kazakhstan and Tajikistan.

Odessa/Iliechevsk /Constanta/Varna/Burgas–Poti–Tbilisi–Baku–Turkmenbashi–Saparmurat Turkmenbashi–Bukhara– Jizzakh–Khavast–Tashkent–Arys–Lugovaya–Aktogai–further along Corridor 2.

Branches:

10a. Baku–Aktau–Beineu–Makat–Kandagach–further along Corridor 5h.

10a'. Ashgabad–Karakum–Ichoguz–Dashoguz

10b. Lugovaya–Bishkek–Rybachye

10c. Khavast–Bekabad–Kanibadam–Kokand–Andijan–Karasu–Osh/Jalal-Abad

10d. Bukhara–Karshi–Tashguzar/Talimarjan–Boysun–Kumkurgan–Dushanbe/Termez–Galaba–Hairatan/Kurgan-Tube

Corridor 11

Passes through Russia, Azerbaijan and Iran.

Buslovskaya–Vyborg–St. Petersburg–Bologoye–Moscow–Kochetovka–Rtischevo–Saratov–Volgograd–Verhni Baskunchak–Astrakhan–Karlan Yurt–Makhachkala–Baku–Osmanly Novyie–Astara–Resht–Kazvin–Teheran–Bafk–Bander Abbas.

Branches:

11a. Kochetovka–Liski–Rostov–Main–Timoshevskaya–Novorossiysk

11b. Rostov (Main Station)–Armavir–Gudermes–Karlan Yurt

11c. Timoshevskaya–Krasnodar–Krivenkovskaya–Adler

Corridor 12

Passes through Moldova, Romania and Bulgaria.

Ocnița–Ungheni–Iași–Bucharest–Ruse–Varna/Dimitrovgrad.

Corridor 13

Passes through Russia, Estonia, Latvia, Lithuania and Poland.

Tallinn/St. Petersburg–Tapa–Valga–Riga–Šiauliai–Kaunas–Šeštokai–Trakiškės–Suwałki–Białystok–Warsaw.

Annex 2. List of Most Important Euro–Asian Rail Routes Indicated in Phases 1 and 2 of the UNECE Euro–Asian Transport Links (EATL) Project

	Route	Corridors	International networks	Countries crossed
1.	Berlin–Frankfurt (Oder) (border of Germany)–border of Poland–Kunovice–Poznań–Warsaw–Terespol (border of Poland)–Brest (border of Belarus)–Minsk–Moscow–Nizhny Novgorod–Perm–Yekaterinburg–Omsk–Novosibirsk–Ulan-Ude–Karymskaya–Vladivostok (port)/Vostochny (port)	PETC 2; OSJD1	E20, CE20 TAR	Belarus, Russia
1.a.	Honka (port)/Turku (port)–Helsinki–Riihimäki–Kouvola–Vainikkala (border of Finland)–Luzhaika (border of Russia)–Buslovskaya–Saint Petersburg (port)–Moscow–Yekaterinburg	PETC9; OSJD 16	E10/CE10, C10/2, E20, TAR	Finland, Russia
1.b.	Mostyska/Chop–Lviv–Moscow	PETC 5, 9; OSJD 3	E30, E95, TAR	Ukraine, Russia
1.c.	Tayshet–Irkutsk–Ulan-Ude–Naushki–Hait (border of Mongolia)–Ulan Bator–Zamyn-Üüd (border of Mongolia)–Erenhot (border of China)–Beijing–Tianjin (port) and to Jinan–Nanjing		TAR	Russia, Mongolia, China
1.d.	Karimskaya–Zabaykalsk–Chinese border		TAR	Russia
1.e.	Kaliningrad (port)–Nesterov (border of Russia)–Kybartai (border of Lithuania)–Kazlų Rūda–Kaunas–Kaišiadorys–Vilnius–Kena (border of Lithuania)–Gudaga–Kazlų Rūda–Kaunas–Maladzyechna–Minsk		C20/3	Russia, Lithuania, Belarus
1.f.	Novosibirsk–Lokot–Aktogai			Russia, Kazakhstan
1 g	Ventspils (port)–Tukums 2–Jelgava–Krustpils–Rēzekne–Zilupe (border of Latvia)–Russian border–Novosokolniki–Rzhev–Moscow		C12/CE12	Latvia, Russia
1h	Liepāja (port)–Jelgava		C12/CE12	Latvia
1i	Warsaw–Berlin–Hamburg–Bremen–Bremerhaven with a branch to Berlin–Dresden		C45/2 CE20 CE55	Poland, Germany
1k	Sassnitz (port)–Berlin		CE55	Germany
1l	Sassnitz (port)–Klaipėda (port)–Šiauliai – Radviliškis–Kaunas		C20/3	Germany, Lithuania
2.	Berlin–Frankfurt (Oder) (border of Germany)–Polish border–Kunovice–Poznań–Warsaw–Terespol (border of Poland)–Brest–Minsk–Moscow–Yekaterinburg–Kurgan–Astana–Druzhba–Ürümqi–Lianyungang (port)/–Shanghai (port)	PETC 2; OSJD 1	E20, E24, CE20 TAR	Belarus, Russia, Kazakhstan, China
2.a.	Honka (port)/Turku (port)–Helsinki–Riihimäki–Kouvola–Vainikkala (border of Finland)–Luzhaika (border of Russia)–Buslovskaya–Saint Petersburg (port)–Moscow–Yekaterinburg	PETC 9; OSJD 16	E10/CE10, C10/2, E20, TAR	Finland, Russia

	Route	Corridors	International networks	Countries crossed
2.b.	Kaliningrad–Nesterov (border of Russia)–Kybartai (border of Lithuania)–Kazlų Rūda–Kaunas–Kaišiadorys–Vilnius–Kena (border of Lithuania)–Gudaga–Ruda–Kaunas–Maladzyechna–Minsk		C20/3	Russia, Lithuania, Belarus
2.c.	Yekaterinburg–Chelyabinsk–Taranovskaya–Zaayatskaya–Tobol–Astana		TAR	Russia, Kazakhstan
2d	Warsaw–Berlin–Hamburg–Bremen–Bremerhaven with a branch to Berlin–Dresden		C45/2 CE20 CE55	Poland, Germany
2e	Sassnitz (port)–Klaipėda (port)–Šiauliai – Radviliškis–Kaunas		C20/3	Germany, Lithuania
3.	Curtici–Arad–Bucharest–Constanța (port)–Poti/Batumi (port)–Tbilisi–Baku (port)–Aktau (port)–Beineu–Nukus–Uchkuduk–Navoi–Tashkent–Shymkent–Almaty–Dostyk–Alashankou–Lianyungang (port)/Shanghai (port)	PETC 4, TRACECA; OSJD 6a, 8, 10, 2, 5	E54, E562, E60, E50, TAR	Romania, Georgia, Azerbaijan Uzbekistan, Kazakhstan, China
3.a.	Baku (port)–Turkmenbashi (port)–Ashgabat–Chardzhou–Bukhara–Navoi	TRACECA; OSJD 10	E60, TAR	Azerbaijan, Turkmenistan, Uzbekistan
3.b.	Tbilisi–Sadakhlo–Gyumri–Yerevan–Gavar–Meghri–Nurduz–Julfa (Yerevan–Gavar–Meghri–Nurduz–Julfa under study)	TRACECA	E692, TAR	Georgia, Armenia
3.c.	Baluchi–Bishkek–Lugovaya	TRACECA	TAR	Russia, Kyrgyzstan
3.d.	Tashkent–Konibodom–Andijan–Jalal–Abad–Turugart–Kashi–Ürümqi (Jalal–Abad–Turugart–Kashi under construction)	TRACECA	E696, TAR	Uzbekistan
3.e.	Dushanbe–Termez–[Turkmenistan]–Bukhara	TRACECA	E695, TAR	Tajikistan, Turkmenistan, Uzbekistan
3.f.	Mersin (port)/İskenderun (port)–Malatya–Dogukapi–Gyumri–Sadakhlo–Tbilisi	TRACECA	E70, E692, E97, TAR	Turkey, Armenia, Georgia
3.g.	Ungheni–Chișinău–Bender–Kuchurhan–Rozdilna–Odessa (port)/Illichivsk (port)–Poti/Batumi (port)	TRACECA; OSJD 5a, 7	E95	Moldova, Ukraine, Georgia
3.h.	Thessaloniki–Promachon (border of Greece)–Kulata (border BUL)–Sofia–Plevna–Varna (port)–Poti/Batumi (port)	PETC8	E680, CE855	Bulgaria, Georgia
3.i.	Curtici–Arad–Timișoara–Craiova–Bucharest–Giurgiu–Ruse–Kaspichan–Varna (port)–Poti/Batumi (port)	PETC 10, 8	E66, E56, E95, E660, E680	Romania, Bulgaria, Georgia
3.j.	Dragoman–Sofia–Gorna–Burgas (port)–Poti/Batumi (port)		E70, E720	Bulgaria, Georgia
3.k.	Ungheni–Iași–Bucharest–Giurgiu		E95	Moldova, Romania, Bulgaria
3.l.	Bukhara–Karshi–[Turkmenistan]–Termez–Qurghonteppa–Kulob	TRACECA	E695	Uzbekistan, Turkmenistan, Tajikistan
3.m.	Kare–Alkhalaki–Tbilisi (the Kare–Alkhalaki section is under construction)		E692 TAR	Georgia
3.n.	Tashkent–Angren–Pap–Andijan (Angren–Pap section under constrution)		E696, TAR	Uzbekistan
3.o.	Chișinău–Revaca–Căinari–Giurgiulești (river port)–Galați (port)		E95, E560	Moldova, Romania
3p	Bujanovac (Serbia)–Tabanovce (Macedonia)–Kumanovo and further to another Macedonian border–Skopje–Bulgarian border–Deve Bair (Macedonia)–Kriva Palanka–Beljakovtse–Kumanovo–Skopje–Kičevo (Macedonia)–Struga–Lin (Albania)		CE85	Serbia, Macedonia, Bulgaria, Albania
4.	Dragoman–Sofia–Svilengrad–Kapikule–Istanbul–Haydarpasa (port)–Izmit–(Derince Port)–Ankara–Malatya–Kapikoye–Razi–Qazvin–Tehran–Sarakhs–Sarahs–Mary–Chardzou–Navoi–Tashkent–Shymkent–Almaty–Dostyk–Alashankou–Lianyungang (port)/Shanghai (port)	PETC 4, 8,10; OSJD 6, 10, 2, 5; TRACECA	E70, E60, E50, C70/2, CE85, CE855 TAR	Bulgaria.Turkey, Iran, Mary, Uzbekistan, Kazakhstan, China

	Route	Corridors	International networks	Countries crossed
4.a.	Mersin (port)/İskenderun (port)– Malatya		E97, TAR	Turkey
4.b.	Ilyichevsk (port) –Samsun (port) –Kalin–Sivas–Bostankaya (rail ferry planned)	TRACECA	E97, E70	Ukraine, Turkey, Russia
4.c.	Tehran–Qom–Meybod–Yazd–Bafgh–Kerman–Zahedan–Mirjaveh–Koh-e-Taftan (border of Pakistan) (Kerman–Zahedan under construction) Mirjaveh (border of Iran)– Koh-e-Taftan (border of Pakistan)–Dalbandin–Spezand–Rohri–Hyderabad–Karachi (port) –Rohri–Lahore–Rawalpindi–Islamabad–Peshawar		TAR	Iran
4.d.	Izmir (port)–Balikesir–Eskisehir		E74, TAR	Turkey
4.e.	Izmir (port)–Usak–Afyon–Yenice–Mersin (port)/İskenderun (port)		E97	Turkey
4.f.	Pehlivanköy–Uzunköprü–border with Greece		NA	Turkey
4.g.	Illichivsk (port)–Derince (port)–İzmit			Ukraine–Turkey
4.h.	Constanța (port)–Derince (port)–İzmit			Turkey
4.i.	Constanța (port)–Samsun (port) (rail ferry planned)			Turkey
4.j	Alexandroupoli–Komotini–Drama (Kavala port)–Serres–Thessaloniki–Athens–Piraeus (port)–N. Konya (container terminal)		C70/2, CE85	Greece
4.k	Thessaloniki–Idomeni (border of Greece)–Gevgelijai (border of Macedonia)–Skopje		CE85	Greece, Macedonia
4.l	Thessaloniki–Promachon (border of Greece)–Kulata (border BUL)–Sofia		CE855	Greece, Bulgaria
4.m.	Border with Bulgaria–Deve Bair (Macedonia)–Kriva Palanka–Beljakovtse–Kumanovo–Skopje–Kičevo (Macedonia)–Struga–Lin (Albania)			Bulgaria, Macedonia, Albania
4.n	Skopje–Gevgelijai (border of Macedonia)–Idomeni (border of Greece)		CE85	Macedonia, Greece
5.	Honka (port)/Turku (port)–Helsinki–Riihimäki–Kouvola–Vainikkala (border of Finland)–Luzhaika (border of Russia)–Buslovskaya–Saint Petersburg (port)–Volgograd–Astrakhan (port)–Olya (port)–Anzali (port)–Rasht–Qazvin–Tehran–Qom–Meybod–Bafgh–Bandar Abbas (port) (Anzali–Rasht–Qazvin section under construction)	PETC 9; OSJD 11	E10/ CE10, C10/2, E99, E50 CE23, CE40, CE32, CE30 TAR	Finland, Russia
5.a.	Astrakhan (port)–Olya (port)–Amirabad (port)–Garmsar–Tehran		TAR	Russia, Iran
5.b.	Astrakhan (port)–Samur–Yalama–Baku–Astara (Azerbaijan)–Astara (Iran)–Rasht (Astara–Astara–Rasht section under study)	OSJD 11	E60, E694 TAR	Russia, Azerbaijan, Iran
5.c.	Astrakhan (port)–Askarayskaya–Ganyushkino–Makat–Beineu–Nukus–Uchkuduk–Bukhara–Chardzhou–Saraghs–Sarakhs–Mashhad–Bāfq	TRACECA	E50, E597 TAR	Russia, Kazakhstan, Uzbekistan, Turkmenistan, Iran
5.d.	Olya (port)–Aktau (port)–Beineu		E597, TAR	Azerbaijan, Kazakhstan
5.e.	Tehran–Qom–Arak–Ahvaz–Bandar–e Emam Khomeyni(port)		TAR	Iran
5.f.	Tehran–Kashan–Badrud–Isfahan–Shiraz–Bushehr (port) (Isfahan–Shiraz–Bushehr section planned)		TAR	Iran
5.g.	Bāfq–Kerman–Fahraj–Chābahār (port) (Fahraj–Chābahār section planned)		TAR	Iran
5.h.	Murmansk (port)–Saint Petersburg			Russia

Annex 2. List of Most Important Euro–Asian Rail Routes Indicated in Phases 1 and 2 of the UNECE Euro–Asian Transport Links (EATL) Project

	Route	Corridors	International networks	Countries crossed
6.	Luxembourg–Luxembourg border–French border–Thionville–Metz–Rémilly–Forbach (French border)–Saarbrücken (border of Germany) Ludwigshafen–Mannheim–Frankfurt am Main–Hanau–Erfurt–Leipzig–Dresden–Görlitz (German border)–Zgorzelec (border of Poland)–Wrocław–Katowice–Kraków–Przemyśl–Medyka–Mostyska/Chop/Yagodin–Lviv–Kyiv–Kharkiv–Liski–Samara–Ufa–Kurgan–Omsk–Novosibirsk–Ulan-Ude–Karimskaya–Vladivostok (port)/Vostochny (port)	PETC 3, 5	E30, E24, CE23, CE40, CE32, CE30 TAR	Luxembourg, France, Germany, Poland, Ukraine, Russia
6.a.	Chişinău–Bender–Rozdilna–Zhmerynka	PETC9	E95,	Moldova, Ukraine
6.b.	Tayshet–Irkutsk–Ulan-Ude–Naushki–Hoit (Mongolian border)–Ulan Bator–Zamyn-Üüd (Mongolian border)–Erenhot (Chinese border)–Beijing–Tianjin (port) and to Jinan–Nanjing		E20, TAR	Russia, Mongolia, China
6.c.	Karimskaya–Zabaykalsk–Chinese border		TAR	Russia
6.d.	Aktau (port)–Beineu–Makat–Kandagach–Nikeltau–Chelyabinsk	TRACECA	E30, E50, E597	Kazakhstan, Russia
7.	Mostyska/Chop–Lviv–Zhmerynka–Fastiv–Donetsk–Likhaya–Volgograd–Aksarayskaya–Makat–Beineu–Nukus–Uchkuduk–Navoi–Tashkent–Shymkent–Almaty–Dostyk–Alashankou–Lianyungang (port)/Shanghai (port)	PETC 3, 5 ; TRACECA	E30, E50, E593, E597, TAR	Ukraine, Russia, Kazakhstan, China
8.	Mostyska/Chop–Lviv–Fastiv–Krasnoarmeysk–Kvashino–Uspenskaya–Rostov-on-Don–Vesyoloye–Gantiadi–Senaki–Tbilisi–Ailat–Astara (Azerbaijan)–Astara (Iran) (Astara–Astara section under construction)	PETC 3, 5; TRACECA	E30, E50, E593, E99, E60, TAR	Ukraine, Russia, Georgia, Azerbaijan, Iran
8.a.	Tbilisi–Gyumri–Yerevan	TRACECA	E694, TAR	Georgia, Armenia
8.b.	Kaliningrad (port)–(Lithuania)–Minsk–Gornosaivka–Nizhyn–Kyiv Riga–Krustpils–Daugavpils–Indra (Latvian border)–Bigosovo (Belarusian border)–Polak–Vitebsk–Orsha–Žlobin		E95, C14/CE14, C95/2	Russia, Belarus, Ukraine
8.c.	Kavkaz (port)–Novorossiysk (port)–Krasnodar		E99, TAR	Russia
8.d.	Varna (port)–Novorossiysk (port)–Poti/Batumi (port)			Bulgaria, Russia, Azerbaijan
9.	Honka (port)/Turku (port)–Helsinki–Riihimäki–Kouvola–Vainikkala (Finnish border)–Luzhaika (Russian border)–Buslovskaya–Moscow–Ryazan–Orenburg–Aktobe–Kandagach–Arys–Tashkent–Bukhara–Karshi–Tashguzar–Baysun–Kumchurgan–Termez–Galaba–Hairatan (Afghan border)	TRACECA	E10/CE10, C10/2, E24, E30, E50, E695, TAR	Finland, Russia
9.a.	Ryazan–Aksarayskaya–Makat–Karakalpakiya–Uchkuduk–Navoi–Bukhara	TRACECA	E50, E597, TAR	Russia, Kazakhstan, Uzbekistan
9.b.	Rostov-on-Don–Volgograd–Baskunchak–Aksarayskaya		E99, E50, TAR	Russia
9.c.	Bukhara–Karshi–Tashguzar–Baysun–Kumchurgan–Sariacia–Dushanbe–Vahdat		E695, TAR	Uzbekistan, Afghanistan

Annex 3. SES Wagon Fleet Indicators and Trends

I. Belarus

	2008	2010	2012	2013
1. National railways' fleet (wagons)	27,062	26,947	31,763	32,626
2. Wagon purchases by national railways (wagons)	793	531	4259	1355
3. Wagon write-offs by national railways (wagons)	852	336	475	473
4. Private fleet (wagons)	6,471	7,482	10,743	11,047
5. Wagon purchases by private operators (wagons)	458	759	2316	516
6. Wagon write-offs by private operators (wagons)	64	180	222	136

Table 1.

Freight wagon fleet in Belarus in 2008–2013

	2008	2010	2012	2013
National railways' fleet (total)	27,062	26,947	31,763	32,626
including:				
– open wagons	6,169	6,385	9,000	9,939
– covered wagons	4,226	4,143	4,504	4,439
– tank wagons	6,040	6,108	7,893	7,796
– flat wagons	2,998	2,921	2,881	2,794
– refrigerated vans	95	95	88	78
– other wagons	7,534	7,295	7,397	7,580

Table 2.

National railways' wagon fleet in Belarus in 2008–2013 by wagon type

	2008	2010	2012	2013
Private fleet (wagons)	6,471	7,482	10,743	11,047
including:				
– open wagons	57	76	1,705	1,710
– covered wagons	54	54	119	133
– tank wagons	2,950	2,908	3,416	3,369
– flat wagons	100	88	86	86
– refrigerated vans	–	–	–	–
– other wagons	3,310	4,356	5,417	5,749

Table 3.

Private wagon fleet in Belarus in 2008–2013 by wagon type

Table 4.

Average age of national railways' wagons in Belarus in 2008–2013 (years)

Type of wagons	2012	2013
National railways' fleet, years	24	22
including:		
– open wagons	15	12
– covered wagons	28	29
– tank wagons	20	18
– flat wagons	34	35
– refrigerated vans	23	24
– other wagons	30	29

Table 5.

Average age of privately owned wagons in Belarus in 2008–2013 (years)

Type of wagons	2012	2013
Private fleet, years	14	12
including:		
– open wagons	4	1
– covered wagons	24	21
– tank wagons	20	17
– flat wagons	25	26
– hoppers	–	–
– other wagons	11	12

Table 6.

Average wagon turnaround time in Belarus (days)

Type of wagons	2008	2010	2012	Nine months of 2013
Overall network	4.07	4.04	4.21	4.19

II. Kazakhstan

Table 7.

Freight wagon fleet in Kazakhstan in 2008–2013

	2008	2010	2012	01/10/2013
1. National railways' fleet, wagons	60,007	52,410	37,559	7,373
2. Wagon purchases by national railways, wagons	1,929	988	9,272	1,816
3. Wagon write-offs by national railways, wagons	3,495	8,505	3,099	2,290
4. Private fleet, wagons	35,166	43,305	32,152	113,890
5. Wagon purchases by private operators, wagons	831	457	3,455	1,098
6. Wagon write-offs by private operators, wagons	492	346	791	440

	2008	2010	2012	01/10/2013
National railways' fleet (wagons)	60,007	52,410	37,559	7,373
including:				
– open wagons	26,313	22,811	20,862	3,321
– covered wagons	8,786	7,817	396	181
– tank wagons	7,021	6,290	6,350	228
– flat wagons	6,475	4,364	3,215	1,657
– refrigerated vans	121	117	42	38
– other wagons	11,291	11,011	6,694	1,948

Table 8.

National railways' wagon fleet in Kazakhstan in 2008–2013 by wagon type

	2008	2010	2012	2013
Private fleet, wagons	35,166	43,305	82,152	113,890
including:				
– open wagons	14,256	16,190	28,947	46,100
– covered wagons	907	1,213	11,056	11,529
– tank wagons	14,405	20,438	28,649	35,246
– flat wagons	31	41	676	2,127
– refrigerated vans	169	61	53	28
– other wagons	5,398	5,362	12,771	18,860

Table 9.

Private wagon fleet in Kazakhstan in 2008–2013 by wagon type

Type of wagons	2012	2013
National railways' fleet, years	20	18
including:		
– open wagons	16	17
– covered wagons	19	27
– tank wagons	19	17
– flat wagons	28	25
– refrigerated vans	36	37
– other wagons	26	25

Table 10.

Average age of national railways' wagons in Kazakhstan in 2012–2013 (years)

Type of wagons	2012	2013
Private fleet, years	11	12
including:		
– open wagons	11	9
– covered wagons	8	14
– tank wagons	8	9
– flat wagons	10	17
– refrigerated vans	22	23
– other wagons	21	20

Table 11.

Average age of privately owned wagons in Kazakhstan in 2012–2013 (years)

Type of wagons	2008	2010	2012	2013
Overall network	5.91	5.96	6.63	6.03

Table 12.

Average wagon turnaround time in Kazakhstan (days)

III. Russia

Table 13.

Freight wagon fleet in Russia in 2008–2013

	2008	2010	2012	As at 1 Oct 2013
1. National railways' fleet (wagons)	404,900	213,800	70,800	68,800
2. Wagon purchases by national railways (wagons)	11,100	10,000	6,000	7,000
3. Wagon write-offs by national railways (wagons)	20,200	11,500	8,200	2,100
4. Private fleet (wagons)	...*)	813,000	1,087,600	1,126,500
5. Wagon purchases by private operators (wagons)	...*)	84,800	18,600	6,300
6. Wagon write-offs by private operators (wagons)	...*)	27,800	12,800	15,300

Note: *) No data available

Table 14.

National railways' wagon fleet in Russia in 2008–2013 by wagon type

	2008	2010	2012	As at 1 Oct 2013
National railways' fleet (wagons)	404,900	213,800	70,800	68,800
including:				
– open wagons	221,200	98,800	17,000	16,800
– covered wagons	55,500	41,500	7,900	7,900
– tank wagons	8,400	500	400	400
– flat wagons	39,500	30,500	15,500	15,600
– refrigerated vans	1,000	900	200	200
– hoppers**				
– other wagons	77,800	40,200	28,600	26,700
– transporter wagons	1,400	1,300	1,200	1,200

Table 15.

Private wagon fleet in Russia in 2008–2013 by wagon type

	2010	2012	As at 1 Oct 2013
Private fleet (wagons)	813,000	1,087,700	1,126,500
including:			
– open wagons	314,500	513,000	526,600
– covered wagons	34,300	62,300	65,800
– tank wagons	251,100	277,700	290,000
– flat wagons	26,900	39,300	40,400
– refrigerated vans	7,400	5,900	6,100
– hoppers**			
– other wagons	178,700	189,500	197,600

Type of wagons	2008	2010	2012	As at 1 Oct 2013
National railways' fleet (years)	21.6	24.2	25.3	25.3
including:				
– open wagons	18.9	20.2	16.3	16.8
– covered wagons	24.1	27.6	29.7	30.5
– tank wagons	25.8	26.7	27.2	28.7
– flat wagons	26.7	28.5	28.5	28.3
– hoppers**				
– other wagons	24.2	27.0	27.4	27.1

Table 16.

Average age of national railways' wagons in Russia in 2008–2013 (years)

Type of wagons	2010	2012	As at 1 Oct 2013
Private fleet (years)	18.6	16.5	15.6
including:			
– open wagons	17.1	14.2	13.5
– covered wagons	16.8	20.1	18.4
– tank wagons	19.5	17.2	16.3
– flat wagons	27.5	27.5	26.6
– hoppers**			
– other wagons	18.9	17.8	16.8

Table 17.

Average age of privately owned wagons in Russia in 2010–2013 (years)

	Standard useful life (years)
National railways' fleet (wagons)	–
including:	
– open wagons	22
– covered wagons	32
– tank wagons	32
– flat wagons	32
– hoppers**	25
– other wagons	–

Table 18.

Standard useful life of wagons in Russia

Journal of Eurasian Economic Integration

The Journal of Eurasian Economic Integration is a quarterly academic and analytical journal published in Russian by the Eurasian Development Bank. The members of Editorial board and Advisory council are distinguished academicians, practitioners and experts in regional integration. Eurasian Economic Integration brings together academic and analytical articles, reviews of books relating to regional integration, interviews and quarterly chronicles of regional integration. With its focus on economics, the journal is a rich source of material addressing a broad range of issues specific to Eurasian integration. These include integration theory and its relevance to the development context; economic integration (trade, investment, financial institutions); institutional integration; cooperation issues in the post-Soviet space; and international experience of regional integration. The first issue was published in the third quarter of 2008.

Requirements for submissions. Papers should be sent by e-mail to editor@eabr.org for blind review. There are no strict limitations on the length of articles. However, the Editorial Board recommends authors to adhere to 6,000–8,000 words or 30,000–40,000 characters. In addition to the main text, authors must supply a brief author(s)' biography (100–150 words), executive summary (100–150 words) and bibliography. These materials must be attached in a separate file.

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Eurasian Integration Yearbook publishes a wide range of articles and other materials in English on theory and practical aspects of Eurasian integration. The major part of the annual Yearbook consists of English versions of selected articles published in the Journal of Eurasian Economic Integration and other analytical publications of EDB. These are supplemented by integration chronicles for the respective year. The Yearbook improves access of the world community to the best papers on various issues of regional integration published in Russian. Apart from papers published in the Journal of Eurasian Economic Integration, papers written specifically for the Yearbook are also welcome (submission in English or Russian).

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- Development banks' operations and activities in the CIS countries and issues of cooperation.

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