

## The Current State and Prospects for the Development of the Transportation Industry of the Kaliningrad Oblast

Ivan S. Gumenyuk

Immanuel Kant Baltic Federal University, Russian Federation  
Corresponding Email: IGumeniuk@kantiana.ru

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### Abstract

*The present-day transportation industry of the Kaliningrad Oblast is characterized by a high level of variability; it is comprised of almost all kinds of transport (with the exception of an underground railway system). The key tasks of the transportation industry are both establishing passenger and freight traffic within the region, and ensuring interregional (including international) traffic. Being located on the way of the global transport corridor between the Asia-Pacific Region and Western Europe, the transportation industry of the Kaliningrad Oblast has all prerequisites of becoming one of the most important sectors of the Oblast's economy due to which the Russian exclave in the Baltic can take a key place on today's world economic map. The paper looks at the main stages of development of the transportation industry of the Kaliningrad Oblast beginning with the time of the breakup of the Soviet Union until the present day. The focus of the paper is the period from 2000 until 2014 when considerable changes took place both in the Oblast's transportation industry on the whole and in its separate segments.*

**Keywords:** Kaliningrad Oblast, transportation industry

### 1. Introduction

At all the stages of historical development of the Kaliningrad Oblast transport has been one of the key factors which determined the character and distinguishing features of functioning of the whole of the region. Before 1946, the territory of the Kaliningrad Oblast was part of East Prussia, and the development of the transportation industry of the region was geared to establishing effective collaboration with the German Empire. The transportation network of East Prussia was quite ramified and backed both domestic cargo and passenger transfer and external relations. When in 1946 the Kaliningrad Oblast was established, it inherited a badly ruined yet quite a ramified transport system with a railway as a basis. Also, the road network and inland waterways system featured a high level of internal development.

The strategy of development of the Kaliningrad Oblast in the post-war years was based on the diversified exploitation of the coastal location of the region, in connection with which in the early years the development of the transportation industry was focused on the establishment of a powerful marine complex in the region. In 1945, the construction of the Kaliningrad Commercial Sea Port commenced, in 1946 - of the river harbour, and in 1948 - of the fishing sea port.

The steady development of the economy of the Kaliningrad Oblast in the second half of the 20th century was also ensured by the development of the transportation industry of the region which by the mid 1980s showed remarkable performance indicators. In 1985, the volume of freight traffic by all kinds of transport in the Kaliningrad Oblast amounted to 47.7 ml tons, with 22.9 ml tons accounting for railway sector, 4.9 - for the sea, 5.3 - for the river, and 14.1 - for the road transport (Korneevets, 1996).

Following the USSR's disintegration, the Kaliningrad Oblast found itself surrounded by the independent states having turned into an exclave region of Russia. The disruption of the existing earlier administrative and commanding mechanisms of economic management had a devastating impact on the socio-economic situation of the whole of the region, which directly affected the performance indicators of the transportation industry. Beginning from the year 1990, the volumes of the transported cargos were declining. The disruption of the administrative and commanding mechanisms of economic management both in Russia as a whole and in the Kaliningrad Oblast resulted in a financial crisis of 1998. In that year, the performance indicators of the transportation industry in the region dropped to the record 12.3 ml tons a year, which is approximately 3.8 times lower than the index of the year 1985.

In spite of the negative consequences of the crisis, for the region's economy it was a certain trigger mechanism that became a starting point in the development of a new economic model in the region. By the year 2002, the Oblast's

economy almost completely recovered from the effects of the crisis, which immediately affected the performance indicators of the transportation industry. Later, the transportation industry of the region continued to increase the volumes of cargo handling, first of all due to the involvement of large cargo owners from Russia, Kazakhstan and Belarus which used the region's transportation system for transiting their own output to the countries of Europe.

Also, from the early 2000s new transport infrastructure facilities and transport projects large in terms of vested capital got underway in the region. For example, specialized terminals started being built in the region's port complex<sup>1</sup>; the Kaliningrad Railways participated in the establishment of a cargo-and-passenger road-rail ferry complex in Baltiisk; as concerns the sphere of public road system, the highway Mamonovo-Gzhehotki was reconstructed, and phases one and two of Primorskoe ring were completed – a motorway that is aimed at connecting all the coastal cities of the region by a world-class speedway. At Hrabovo airport, the project for the development of a transit hub got underway, which will provide for the aircraft traffic between the cities of Russia and Europe at a higher level.

A high rate of the socio-economic development of the Kaliningrad Oblast at that time ensured the attainment by the year 2007 of the indices of development level recorded in the last years of the Soviet period. Thus, the level of the region's industrial production in 2006 exceeded the rates of the year 1990 (Fedorov, 2008), and the performance indicators of the transportation industry in 2007 (Table 1) were the highest in the entire modern history of the region's development. On the whole, the cargo turnover rates of the region's transportation industry clearly correlate to the indices of the socio-economic development of the whole of the Oblast. In the times that are recessionary for the region (2009-2010, 2014) the transport performance indicators drop and, conversely, at a time of active economic development of the region the transport industry of the Kaliningrad Oblast actively operates.

**Table 1.** Indicators of cargo turnover by different kinds of transport in the Kaliningrad Oblast in 2000 – 2014

Year	Total volume of freights carried (ml tons)	Railway transport (ml tons)	Maritime transport (ml tons)	Road transport (ml tons)
2000	14.1	8.6	4.4	1.1
2001	17.8	10.8	5.8	1.2
2002	25.8	14.5	9.9	1.4
2003	31.2	17	12.6	1.6
2004	34.3	18.5	14	1.8
2005	35.16	18.4	14.6	2.16
2006	36.2	19.1	15.2	1.9
2007	37.1	19.4	15.6	2.1
2008	36.1	18.5	15.4	2.2
2009	27	12.7	12.4	1.9
2010	31	15.5	13.3	2.2
2011	30.6	14.7	13.4	2.5
2012	28.8	13.4	12.7	2.7
2013	30.5	13.9	13.6	3
2014	28.7	12	13.8	2.9

**Source:** (Gumenyuk, 2008; 2010)

Considering the role of separate kinds of transport in cargo handling in the Kaliningrad Oblast, it should be noted that the key role is played by the region's railway and maritime transport infrastructure ensuring handling of 95% of all the cargo in the Oblast. This infrastructure connects the region's port complex with the major railway line of the Oblast: Nesterov – Chernyakhovsk – Kaliningrad. Following is a brief characterization of the development of separate kinds of transport in the Kaliningrad Oblast in the period of 2000 – 2014.

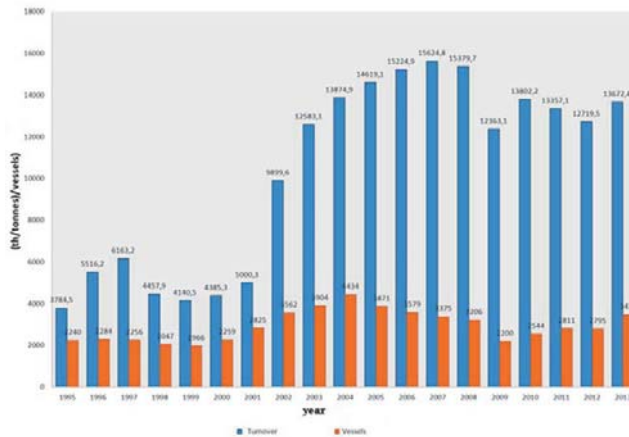
## 2. The Marine Transport

The region's port complex is quite a ramified and spatially scattered network of port infrastructure facilities aimed at securing cargo-and-passenger maritime flows. The whole port complex of the Oblast is united into a single structure called "Sea Port Kaliningrad". In terms of its territorial organisation, the Sea Port Kaliningrad is comprised of a central port

<sup>1</sup> The largest of those are as follows: terminals for crude oil and petroleum products transfer in Izhevskoe ("LUKOIL – Kaliningradmorneft") and in Kaliningrad ("Kaliningrad marine terminal"), a terminal for loose cargo transshipment ("Sodruzhestvo-Soya").

located in the city of Kaliningrad and three port stations: "Svetly" — situated in the town of Svetly; "Baltiisk" — in the town of Baltiisk; "Pionerskii" — in the town of Pionerskii.

The two most important indicators characterising the level of development of the Sea Port are the cargo turnover / passenger traffic and the number of vessel calls. The figure below shows the data on the volume of cargo turnover and the number of vessel calls at the Sea Port Kaliningrad. As is seen from the Table, the growth of cargo turnover of the Port Kaliningrad is caused not by a drastic increase in the number of vessels calling at the Port (2,240 calls in 1995 and 3,471 calls in 2013), but by the growth of vessels' freight-carrying capacity. Thus, in 1995 one vessel accounted for 1.6 thousand tons, and in 2000 the figure was 1.9 thousand tons. Subsequently, there was a dramatic increase that resulted in one vessel accounting for 3.9 thousand tons in 2013.



**Figure 1.** Rates of cargo turnover and vessel calls at the Sea Port Kaliningrad  
**Source:** (FSBI Administration, 2015)

With relation to the foreign trade profile, the Sea Port Kaliningrad is classified among ports of outbound specialization. In 2014, 74 % of all the cargos handled at the Port were export (approximately 10 ml tons), while import accounted for only 22 % (less than 3 ml tons). The remaining 4 % (approximately 500 thousand tons) is coastal freight. Within the composition of exported cargo, the lion's share (approximately 70 %) falls on crude oil and petroleum products. Those are followed by ferrous and nonferrous metals (12 %), coal and coke (5 %). Imported cargos are more diversified, although three main kinds of cargos can be distinguished here: grain crops (46 %), containers (26 %) and crushed stone (22 %) (Cargo turnover., 2015)

The prospects of development of the port complex of the Kaliningrad Oblast are badly hampered by the technological and infrastructural limitations which can be formulated as follows:

1. Limitations connected with the exploitation of the Kaliningrad seaway canal whose infrastructural possibilities allow for passing of vessels with the draught of only up to 8 m. At the same time, the world commercial fleet is moving towards an increase in cargo carrying capacity of vessels and as a result a rise in their draught. Today, this infrastructural limitation affects the scope of work of the Sea Port Kaliningrad making it inaccessible for a wide range of vessels exploited in the Baltic Sea.
2. The design capacity of the Kaliningrad seaway canal according to experts' estimates amounts to 40 ml tons annually; in 2013 the performance indicator of the port complex of the region came to 13.5 ml tons, i.e. approximately 33 % of the design capacity of the canal. In the short run, no sharp increase in the performance indicators of the port complex is expected, but in the mid- and in the long run the limitations of the seaway canal can have a negative impact on the strategy of development of the maritime port complex in the region.
3. A grave infrastructural limitation in the development of the region's port complex is the depreciation of the major part of its main engineering facilities, as well as of maritime infrastructure facilities (dams, bank stabilization structures, navigation facilities, mooring berths etc.). In addition to running-maintenance costs, heavy capital investments are required for the replacement or modernization of maritime infrastructure facilities and production capacities of the port.

### **3. The Railway Transport**

The total working kilometrage of railways in the Kaliningrad Oblast is 667.7 km, including the railways with the gauge width of 1,520 mm (Russian gauge) — 626 km, and those with the gauge width of 1,435 mm (European gauge) — 104 km. The rail facilities are comprised of 3 rail junctions: Kaliningrad, Chernyakhovsk and Sovetsk; 45 line stations: 2 locomotive facilities and 1 car freight depot. (Presentation., 2013) The railway has border crossing points: two with the Lithuanian Railways and three with the Polish Railways.

The actual carrying capacity of the Kaliningrad Railways is approximately 25 ml tons a year. However, today only half of the railways' transfer capacities are exploited. In 2014, the railways carried 13.8 ml tons of cargo, 506 thousand long-distance passengers and 3.1 ml commuters.

The prospects of development of the railway transport in the Kaliningrad Oblast are connected with the improvement of both passenger and freight traffic. Within the former area, among the priority projects is the organisation of passenger rail travel on the route the city of Kaliningrad — Hrabovo airport. It is expected that the journey time on the route will be 30 minutes and the daily passenger amount will reach 3 thousand. The organisation of such a route presupposes the establishment of a separate terminal for the aeroexpress train running to and from Hrabovo airport. All the works aimed at the organization of travel along the route are expected to be completed by the FIFA World Football Cup 2018 in which Kaliningrad will be one of the host cities.

Within the latter area of development aimed at the enhancement of cargo capacities of the railroad facilities of the region, the priority project is the construction of the Northern railway bypass of the city of Kaliningrad in the direction of the port Baltiisk. The project is estimated at 8 billion roubles, and the timeframe for its implementation is the years 2016—2030. The construction is going to be carried out within the state strategy of development of railroad and port complex of the Kaliningrad Oblast. The Northern railway bypass of the city of Kaliningrad with the length of more than 50 km will allow to lessen the load on the regional centre and will boost the further development of the facilities of the cargo port Baltiisk. At present, almost the entire flow of petroleum and other hazardous cargos intended for the towns of Baltiisk and Svetly is handled at the railroad station situated in the centre of Kaliningrad.

### **4. The Road Transport**

The total length of the motorways in the Kaliningrad Oblast is 6882.3 km, including those of federal significance - 203.8 km, those of regional and municipal significance - 4456.4 km, and those owned by municipal entities — 2222.1 km. The density of the Oblast's network of motorways is 308.1 km per 1000 km<sup>2</sup> of the territory and it far exceeds the average Russian rate (67 km/thousand km<sup>2</sup>). All the public-access roads of regional or intermunicipal significance in the region have hard surface and are rich in engineering structures, bridges, overbridges, and pipe culverts. A total of 686 bridges and 4,777 pipe culverts are registered on the general-purpose motorways.

The construction of new motorways in the Kaliningrad Oblast in the past few years is connected with the implementation of a large-scale infrastructure project called "Primorskoe ring". The project is aimed at the construction of a motorway, which, on the one hand, is supposed to link the Oblast's center Kaliningrad with the coastal resorts and the international airport Hrabovo, and also to establish a modern ringway immediately around the city of Kaliningrad. The project makes provisions for the construction of 178 km of speedways with the allowable maximum speed of up to 120 km/h. In 2009, a section with the length of 26.7 km was put into operation, and in 2010 - a road section of 24.8 km in length. In 2013-2014, the ring motorway (in the first instance, the bridge crossings) around the city of Kaliningrad was modernized. The project is expected to be completed by the year 2018.

### **5. The Air Transport**

The civil passenger aviation of the region is developing at the premises of the only airport Hrabovo located 17 km to the north-east of the city of Kaliningrad. The airfield of Hrabovo airport belongs to class "B" of the current RF classification of civilian aviation airfields (AES) and corresponds to the reference designation "4D" within the standards of the International Civil Aviation Association (ICAO). The airfield has one take-off runway with an artificial coversheet with the dimensions of 2500 × 45 m. The current acceptance rate of Hrabovo airport airfield is 10—11 takes-off / landings an hour.

During the period from 2002 until 2014, the passenger traffic via the airport increased almost nine-fold from 163 thousand (in 2002) to 1.4 ml (2014). The best performance rates of the airport were recorded in 2008 when a little less than 2 ml passengers were transported.

In 2014, the annual passenger flow amounted to 1,460,000 people, where 1,228,639 were domestic flights passengers (84%), and the other 231,415 were international flight passengers. Against the year 2013, the rate of passenger flow on domestic flights grew by 15.19% which is connected with an increase in the number of flights on regular routes to Moscow and St. Petersburg, and also with launching in 2014 of new routes to the Russian cities of Krasnodar, Murmansk, Cherepovets and Belgorod. The major volume of air transportation on domestic lines was performed by the largest Russian airline company "Aeroflot" — 31.8%. The air carrier "Rossiya" ranks second (19.53%) and the air entity "UTAIR" ranks third with 16.28%.

231,415 passengers were carried on international flights, with 105,214 passengers having taken regular international flights, and 126,201 — charter. Among most popular destinations were Antalya, Hurghada, Sharm el-Sheikh, as well as Thessaloniki and Barcelona. The year 2014 was also a record in terms of the amount of cargo traffic with the total volume of 5,565,117 tons. The increase against the previous year was 1.77%.

The prospects of development of civilian aviation in the region are connected with the implementation of the Federal Target Programme "The Development of the Transportation Industry in Russia (2010—2020)" of the subprogramme "Civilian aviation" within which it is expected to modernize and develop the Hrabrovo airport. It is planned to extend and reinforce the flight strip, to fit it up with radio landing aids, luminous-signal and weather equipment, to construct additional flight lines and taxi ways. The modernized airfield will receive aircrafts with an increased lifting capacity and flying range, and the capacities regarding the amount of received and released aircrafts will be enhanced. The increase in the length and width of the flight strip will provide for the airfield Hrabrovo compliance with the requirements of the AES standards applicable to airfields of class "B" according to the AES and "4E" (by the recommendations of the ICAO) which will permit the operation of the critical aircrafts Il-96-300, Tu-154, Il-76, and also foreign aircrafts of the similar type B-747-200, B-757, B-767-200, B-737, A-320 and a lower class aircrafts. In addition to that, the modernization of the airfield within the proposed characteristics will allow to increase its trafficability throughput three-fold (from 10—11 to 34 takes-off-landings/hour). It is expected to increase the acceptance rate of the air-terminal complex up to 2,000 passengers an hour (from the current 1.1—1.2 ml passengers a year to 5 ml passengers a year).

## 6. Conclusion

Summarizing the current period in the development of the transportation industry of the region, the following should be noted: after the space of 20 years of functioning of the Kaliningrad Oblast under the exclave conditions, the region has failed to develop a powerful economic system capable of exploiting the potential of the transportation industry to the fullest extent. Even the highest performance indicator of the transportation industry of the region of 37 ml tons of freights carried, recorded in 2007, is 10 ml tons lower than the performance of the transportation industry of the region in the year 1985. Another characteristic negative factor of the current level of development of the region's transportation industry is the fact that more than 60% of the infrastructure facilities of the present-day transportation industry of the Oblast were launched as early as in the Soviet time and do not meet the up-to-date requirements (technological obsolescence) or need major reconstruction (physical depreciation). In such conditions, the further development of the whole of the transportation industry of the region is only possible through the implementation of large-scale projects that will allow to completely make use of the region's potential as one of the leading centres for ensuring global flows of commodities between the East and the West.

The transportation industry of the Kaliningrad Oblast approached the year 2015 with extensive plans (ensuring hosting FIFA World Football Cup 2018, a fundamental modernization and construction of a number of checkpoints, business projects aimed at the renewal of inland water transport, the establishment in the town of Baltiisk of large-scale ferry facilities and the development of an extensive network of ferry lines etc.). However, several key problems existing today have not been resolved until now (ensuring steady freight traffic to the Kaliningrad Oblast, presence of "bottlenecks" at the core transportation routes of the region, obsolescence and physical deterioration of a large number of infrastructure transport facilities etc.). The efficiency of development of the region's transportation industry in the future will depend on the problems being solved quickly and comprehensively.

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