





# Improvement of Personnel Training in the System of Advanced Professional Education for the Road Freight Transportation Market of the Kaliningrad Region

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**Keywords:** Cargo transportation, personnel, training, advanced professional education, transport industry.

**Abstract:** The development of the transport component can be considered as a key vector of socio-economic growth of the Kaliningrad region in the conditions of increasing turbulence of the external environment. Taking into account the specifics of the geopolitical situation of the region, special attention should be paid to the further development of road freight transportation when improving the activities of the transport industry. Ensuring their effectiveness involves solving a whole range of managerial, transport and logistics, personnel tasks. In the course of the conducted research using an expert approach and ranking of the identified problems, the importance of studying the impact of personnel aspects on the prospects for the development of the Kaliningrad road transport market was determined. The issue of ensuring that the industry needs competitive, mobile, innovatively thinking specialists who are ready for constant development and change is particularly acute. It is possible to solve this problem by improving the system of sectoral advanced professional education with the introduction of proactive training, individual educational trajectories, close integration of the interests of industry enterprises and training centers. The proposed structuring of the problem in the form of a "goal tree" allows us to identify key guidelines for further work on improving the training system for the transport industry in the conditions of the Kaliningrad region.

## 1 INTRODUCTION


Kaliningrad Region is a territory unique in its geographical location. This is the only subject of the Russian Federation – from the main part of the country by the territories of two other states and international waters, which complicates the interaction of the Kaliningrad Region with other Russian regions and creates many related problems. At the same time, the Kaliningrad Region is the westernmost subject of the Russian Federation, being in close proximity to the Baltic states, Finland, Poland, Germany, Denmark and Sweden.


The special exclave position of this region relative to the EU countries, remoteness from Russian territories is the most important condition for its


development.


Pskov, the closest regional center of Russia, is located at a distance of 800 km from Kaliningrad. The center of the North-Western Federal District (which includes the region), St. Petersburg is 950 km away. The road connection to Moscow is 1237 km. At the same time, the distances to many European capitals are noticeably less: 350 km to Vilnius, 390 km to Riga, 375 km to Warsaw, 530 km to Berlin, 535 km to Stockholm, 680 km to Copenhagen, 850 km to Oslo (Administration of the city district "City of Kaliningrad", <https://www.klgd.ru/>).

The change in a number of external political and economic conditions has determined the modern guidelines of the economy and social sphere of the Kaliningrad Region. A significant direction of its dynamic growth is the development of the transport

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industry. It is safe to say that transport is a key area of specialization of the region, ensuring the successful functioning of the regional economy and contributing to the strengthening of foreign economic relations. One tenth of the total number of people employed in the regional economy is concentrated in the transport industry and one tenth of the gross regional product is produced.

## 2 STUDY METHODS

The Kaliningrad Region's transport complex includes various types of transport: aviation, rail, water, automobile, pipeline. Intercity transport is also actively used – bus, trolleybus, tram.

Table 1 shows a sample characteristic of individual elements of the Kaliningrad Region's transport industry.

The area of the Kaliningrad Region is 0.1% of the area of the Russian Federation, the population (as of January 1, 2020) is 0.69%. In terms of territory area, the region ranks 77th among all subjects (Regions of Russia. Socio-economic indicators, 2020).

The specifics of the special geopolitical location of the Kaliningrad Region suggests the need to pay special attention to the implementation of road freight transportation (not only domestic, but also

international) when improving the transport component of the region's activities. Ensuring high efficiency of international cargo transportation represents a whole range of transport and logistics tasks. The need to solve them is actualized by the modest place of Russia in terms of the Logistics Performance index (Analytical report of the EEC, 2020).

For a number of regions of Russia, for example, the Kaliningrad Region, when carrying out export and import operations, trucking to and from other countries is of great importance (Nordin, 2020; Department of TIR and Customs Systems ASMAP, 2020). Over the past few years, the number of organizations engaged in international cargo transportation in the region has remained relatively stable.

Moreover, after a rather significant decrease in 2019, the number of rolling stock owned by them has increased by 1,229 units over the past year. However, this practically did not affect the volume of transported goods. In 2020, the number of organizations – full members of ASMAP in the Kaliningrad Region remained unchanged and amounted to 218 companies. Based on the study of the opinions of experts and feedback directly from road carriers, a number of problems characteristic of the activities of motor transport enterprises of the Kaliningrad Region can be identified in Table 2.

Table 1: Characteristics of the transport component of the Kaliningrad Region as of the end of 2020 (Kaliningrad Region in numbers, 2021).

No.	Indicator	Units of measurement	Value
1.	Operational length of public transport routes: – railway tracks; – public roads – total: – including: – federal roads; – regional or inter-municipal roads; – local roads; – inland waterways	km	667.6 9155.8 256.2 4421.5 4478.1 534
2.	The share of paved roads in the total length of public roads	%	86.9
3.	Density of communication routes: – public railway tracks; – paved roads	km of tracks per 1,000 square km of territory	44.2 541.9
4	Transported goods by road by organizations of all types of activity, of which, on a commercial basis by large and medium-sized organizations	million tons	6.4 1.9
5	Cargo turnover of motor transport organizations of all types of activity, of which on a commercial basis by large and medium-sized organizations	million tons-km	1751 1097
6	Availability of motor transport vehicles Including: trucks; passenger cars; buses	pieces	458871 31523 422528 4820

Table 2: Problems of ensuring road freight transport in the region (Analytical report of the EEC, 2020).

Grouping problems	Content of problems
1. Customs	<ul style="list-style-type: none"> <li>– delays in customs clearance of goods caused by errors and inaccuracies in documentation;</li> <li>– the absence of a unified regulatory framework for customs clearance of various goods and waybills;</li> <li>– shortcomings in the technologies of customs clearance and control, including the use of information previously sent via electronic communications;</li> <li>– lack of a standardized database on the structure and composition of documents, etc.</li> </ul>
2. Regulatory and legal	<ul style="list-style-type: none"> <li>– frequent adjustments in the preparation of regulatory and legal customs documentation;</li> <li>– different level of elaboration of regulatory and legal support for international cargo transportation in different countries;</li> <li>– imperfection of the organization of multimodal door-to-door transportation;</li> <li>– bureaucratization and cumbersome customs clearance procedures, etc.</li> </ul>
3. Personnel	<ul style="list-style-type: none"> <li>– insufficiently qualified personnel (logistics intermediaries, representatives, carriers and customs officials);</li> <li>– poor adaptation of training programs for specialists in the transport industry, taking into account digitalization, technological transformation of the industry and the global community;</li> <li>– insufficient level of professional education of specialists who ensure the work of transport infrastructure organizations and transportation safety in the region;</li> <li>– uneven distribution of young personnel between freight and passenger transportation, in favor of the former;</li> <li>– lack of continuity in the activities of educational institutions and enterprises of the transport industry for the training, retraining and advanced training of transport industry workers;</li> <li>– lack of professionalism in the organization and routing of transportation of various goods;</li> <li>– insufficiently effective system of training highly qualified international drivers, etc.</li> </ul>
4. Objective	<ul style="list-style-type: none"> <li>– failures related to the human factor (accidents, illnesses, theft, etc.);</li> <li>– force majeure circumstances (natural disasters, military actions, etc.);</li> <li>– additional sanitary inspections due to the pandemic;</li> <li>– complication of routes due to quarantine cordons, political situations, etc.</li> </ul>
5. Technical and logistical	<ul style="list-style-type: none"> <li>– the use of vehicle models whose technical condition does not meet the increased standards of different countries, especially the EU;</li> <li>– significant deterioration of conditions for the renewal of the rolling stock fleet;</li> <li>– low level of organization and development of logistics;</li> <li>– difficulties in organizing international transportation of combined cargoes;</li> <li>– a significant number of accidents (25%) as a result of improper securing of cargo, etc.</li> </ul>
6. Infrastructure	<ul style="list-style-type: none"> <li>– poorly developed infrastructure of the routes used;</li> <li>– high level of road tolls in some countries;</li> <li>– the technical condition of roads that does not meet the needs of the economy and leads to an increase in delivery times and additional costs;</li> <li>– lack of permanent routes, etc.</li> </ul>

We will rank the groups of problems presented in Table 2 by the method of paired comparisons in terms of their importance for road freight transportation. Table 3 shows a square preference matrix for this method. For line-by-line calculation of the results of comparing groups of problems, preference signs are replaced with points: 0.5 – "<", 1 – "=" and "≈", 1.5 – ">".

Table 3: Application of the method of paired comparisons for ranking the problems of international freight transport by the criterion of their importance

Problem groups	Problem groups						Total points
	1	2	3	4	5	6	
1. Customs	=	≈	≈	>	≈	≈	6.5
2. Regulatory and legal	≈	=	<	≈	≈	<	5
3. Personnel	≈	>	=	>	>	≈	7.5
4. Objective	<	≈	<	=	≈	<	4.5
5. Technical and logistical	≈	≈	<	≈	=	≈	5.5
6. Infrastructure	≈	>	≈	>	≈	=	7
Amount	-	-	-	-	-	-	36

Graphically, the results are presented in the form of a diagram (Fig. 1).

The ranking analysis shows that *personnel and infrastructure* problems are the most important for road freight transportation. In addition, it should be noted that there are personnel aspects in almost every group of problems. The results of numerous studies confirm the relevance of these problems not only for freight, but also for passenger transportation.

In the Kaliningrad Region, since 2017, the Program for the Integrated Development of the transport infrastructure of the Kaliningrad City district for 2017-2035 has been approved and is in effect (Administration of the city district "City of Kaliningrad", <https://www.klgd.ru/>). The list of tasks for the implementation of the program is defined:

1. Further improvement of the city's road network.
2. Ensuring traffic safety.
3. Bringing the transport system into a state of sustainable functioning.
4. Improving the quality of transport services to the population.

It should be noted that the tasks outlined by this program fully echo one of the targets for the progressive development of the country's economic sectors, noted in the Economic Security Strategy of the Russian Federation for the period up to 2030, namely, "integrated development of transport infrastructure, creation of modern transport and logistics complexes, development and implementation of modern vehicles" (Decree of the President of the Russian Federation No. 208,

<http://government.ru/>).

This program also provides for a number of target values (indicators) for the development of transport infrastructure (six indicators). However, among the tasks and indicators of their implementation, the elaboration of personnel aspects is not provided in detail. At the same time, the effectiveness of the implementation of the tasks set in the program directly depends on the implementation of a balanced integrated approach to improving the entire field of personnel management – from training to recruitment, development, adaptation, and increased mobility.

Fundamentally new conditions for the activities of transport sector enterprises put forward special requirements for the staffing of its successful functioning.

The analysis of the situation with the personnel management of the transport sector of the Kaliningrad Region economy revealed the following shortcomings:

- insufficient qualifications of employees;
- lack of consistency in obtaining specialized education;
- inefficient motivation system;
- poaching or leaving employees.
- insufficient attention to the formation of elements of the personnel management system;
- poor adaptability and mobility of employees to work in changing conditions;

One of the most significant problems is a serious gap between the level of training of graduates of transport specialties and the requirements of the real

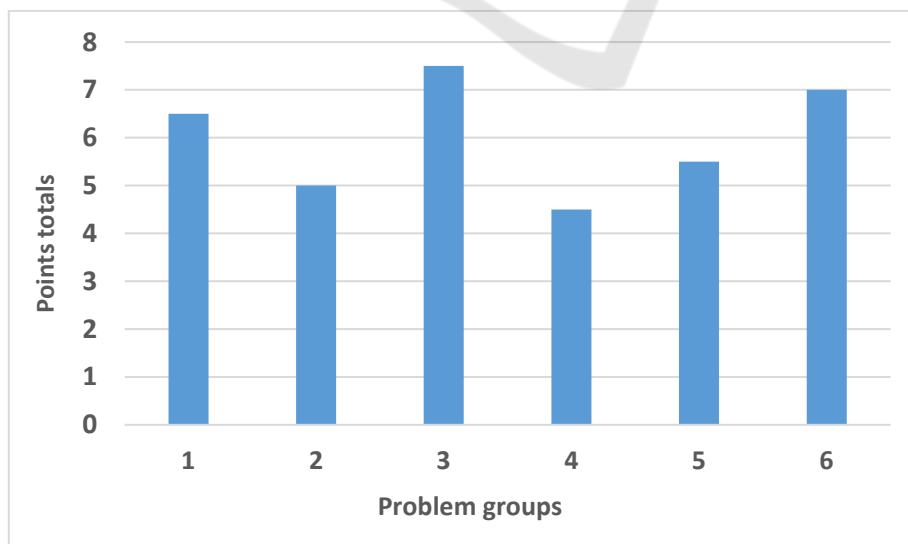


Figure 1: Results of ranking freight transport problems in terms of their importance.

sector of the economy in the form of employers aimed at obtaining workers with the necessary qualifications, capable of rapid adaptation in changing conditions, implementing innovative approaches, ready for continuous development and acquisition of new skills. In these conditions, it is necessary to pay attention to the development of the system of continuing education, the possibility of ensuring continuity in training by improving the system of advanced professional education.

Intense activities in this area in the Kaliningrad region are carried out by: the Autonomous non-profit organization of advanced professional education "Training and Consulting Center of the Association of International Road Carriers", FSAEI of advanced professional education "Kaliningrad center for professional training and advanced training of personnel of the Federal Road Agency", the departments of advanced professional education centers of the Kaliningrad Universities (KSTU and BFU).

Comprehensive modernization of specialized education, systematic digitalization of the educational process, attracting talents and improving the material base are such areas in the priority of the Concept of personnel training for the transport complex until 2035 (hereinafter referred to as the Concept) (Decree of the Government of the Russian Federation of February 6. No. 255-p, <https://www.garant.ru>).

This document considers the development of new educational programs, with a focus on solving new qualitative problems in the transport sector, expanding the academic mobility of students, the formation of modern assessment systems and the creation of a bank of best educational practices. In addition, another important vector of work is the development of cooperation with potential employers of graduates of transport universities.

The concept provides for the development and implementation of a career development system for young employees of transport educational formats, a system of competitions for teaching staff and project teams in order to identify, stimulate and develop talents. These are various programs for the further development of human capital, including training in additional professional programs, internships, formation of a personnel reserve, improvement of social guarantees and protection of employees of educational organizations, development of a system of material and moral incentives.

### 3 RESULTS AND DISCUSSION

A survey of the heads of Kaliningrad transport enterprises, an assessment of the dynamics of processes in the labor market, confirm the relevance of the implementation of the provisions of the Concept in the field of the development of advanced education of transport industry workers in the regional market.

As a result of the conducted research and analysis of the needs of the road transport market, the authors carried out the structuring of the main goals of improving the system of advanced professional education, taking into account the specific conditions of development of the Kaliningrad region. A goal tree constructed in accordance with classical recommendations (Golubkov, 2012) (Fig. 2) structures these goals.

General goal G: to promote the efficiency and safety of road transport through the development of human resources of transport companies

Level 1 sub-goals:

G1 - ensuring continuity of various levels of advanced branch education;

G2 - meeting the need for variable modular programs;

G3 - optimization of the educational process for the implementation of real competence training;

G4 - efficiency of knowledge replenishment taking into account the dynamics of the industry development;

G5 - formation of relevant competencies in the conditions of informatization;

G6 - diversification of educational programs based on the professional needs of students;

Level 2 sub-goals:

G11 - the introduction of a "cascade" form of training, with a gradual "stepwise" complication of the program and intermediate forms of control of training and its effectiveness;

G12 - the use of innovative educational programs aimed at the proactive development of transport enterprises;

G21 - the use of flexible, problem-oriented forms of learning;

G31 - improvement of classroom equipment, introduction of new simulators and training systems

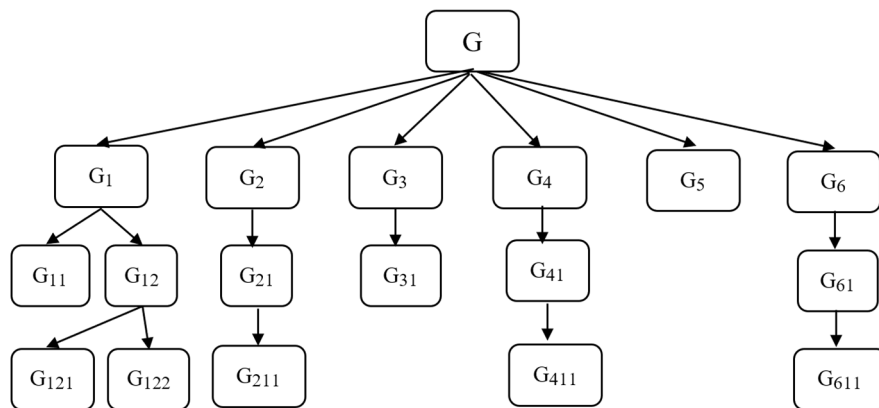


Figure 2: The tree of goals for improving training.

G41 - development of online courses;  
 G61 - implementation of individual educational trajectories;  
 Level 3 sub-goals (tasks):  
 G121 - formation of a bank of best educational practices;  
 G122 - strengthening cooperation with future employers;  
 G211 - the use of modern pedagogical teaching technologies (case studies, lectures, provocations, project activities, trainings, etc.) with the active use of interactivity elements;  
 G411 - extensive use of educational process software;  
 G611 - introduction of modern systems for evaluating the results of students' training.

In order to establish the priority of solving problems related to the above goals, as well as a reasonable allocation of resources for their solution (building a "road map"), it is advisable to involve experts – specialists of the transport complex and transport education.

#### 4 CONCLUSION

Thus, in order to implement the continuity concept in the training of personnel in the transport sector of the Kaliningrad region in the system of advanced professional education, to increase its effectiveness and practical orientation, it is necessary:

1. modular structuring of educational programs;
2. thorough analysis and consideration of the requests of trainees – employees of the transport industry;
3. modernization of the content, structure and technology of teaching in the system of

- advanced education;
4. digitalization of educational processes;
5. popularization of educational products;
6. use of various opportunities (forms) of integration of educational centers, universities, enterprises, scientific structures;
7. updating the material and technical base, training centers in accordance with the pace of modernization of the transport sector.

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